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A TREATISE

ON

SYPHILIS

IN

NEW-BORN CHILDREN

AND

INFANTS AT THE BREAST.

BY

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AUTHOR'S PREFACE

TO THE

ENGLISH TRANSLATION.

Having learnt accidentally that this work is being translated in England, I have requested the honour of adding a few lines thereto for the purpose of expressing the feelings with which this information has inspired me. If anything could add to the satisfaction which an author derives from so explicit and spontaneous a token of approval, it might assuredly be found in the circumstance that such approval is accorded by a Society which, in giving it, cannot be suspected either of acting from mere complaisance, or of yielding to solicitation, but which answers only to the calls of a pure love of science. I may perhaps be permitted to observe that, in conferring upon my work this high encomium, the New Sydenham Society will, at the same time, unintentionally have caused a part thereof to redound to their own countrymen. Of the clinical records and theoretic generalizations, the *ensemble* of which may give some value to my work, none have been furnished me in such great number or of a character so valuable as those by the specialist writers of Great Britain.

Since the publication of my 'Treatise on the Syphilis of Newborn Children and of Infants at the Breast,' I have not had either to record or to discuss any considerable opposition to the principal points set forth in it. If several *explanations* which I had myself

given with every reservation, and rather as probable than demonstrable, have been criticised, the *practical facts* which I have brought forward have not been contested. The transmission of the poison by the fœtus to the mother, denied at that time, has now become admitted, if I may believe the development which this principle has received from various authors; in the first rank amongst whom justice requires that I should mention Mr. Jonathan Hutchinson and Mr. Victor de Méric.

The doctrine of transmissibility between nurses and sucklings, plainly enunciated by me, has not been seriously disputed, neither can it, as I conscientiously believe, be disputed by candid practitioners. The contagiousness of *congenital* syphilis is, then, placed beyond doubt; and at the same time that it is an accepted principle, so it is one of the most important, as may be seen from an examination of the consequences I have attributed to it (in my recent work[1]) in the explanation of cases of the transmission of constitutional symptoms in *adults*.

All these truths could not remain, and have not remained without influence on practice. Although my position as an author obliges me to allow myself to be judged without developing my means of defence, I cannot, nevertheless, resist the temptation of recommending more particularly to my readers the conclusions which I draw (Part V, Chap. I, Section I) concerning the data by which an individual who has had syphilis will be able to recognise whether he is in a state to beget healthy children. No doubt it is a language less reassuring than that held by the earlier writers on syphilis, persuaded as they were of the *indispensability* and the *infallibility* of mercury; but my experience and my conscience forbid me to speak otherwise.

Upon these various questions, however, light continues to fall from all countries and from all minds. However carefully matured a book may be, it cannot reproduce the scientific movement of its epoch. If it pretend to have fixed this movement, it is in danger

[1] 'Exposition critique et pratique des nouvelles doctrines sur la Syphilis,' Paris, 1858, 1 vol. en 12, chez J. B. Baillière et fils.

of impeding it. Imbued with this truth, I have sought to utilize the relations which my position as a journalist procures me; and, in concert with my honorable friend and colleague, Dr. Rollet, at present head surgeon of the Hospital de l'Antiquaille, I shall publish annually a volume,[1] in which will be collated and discussed all the details of progress effected during the year in this branch of medical science, so interesting to those who cultivate it with the love of truth and the feeling of duty.

P. DIDAY.

Lyons; *December 20th*, 1858.

[1] 'Annuaire de la Syphilis et des Maladies de la Peau.' The first number of this Yearly Miscellany will appear in February, 1859, J. B. Baillière and Son, Paris.

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INTRODUCTION.

The study of syphilis attracts universally, and as it were irresistibly, the attention of acute inquirers. Observe its progress; follow the discussions to which it gives rise; count the number, weigh the merit, of those who cultivate and honour it; note how it always remains pure and scientific, despite the contact of charlatanism and speculation; and say whether this branch of medical science does not enjoy a kind of privilege—shall I say notwithstanding its origin?—which distinguishes it and raises it above all other specialties.

This tendency is easy of explanation. In addition to the practical and social importance of the problems which it supplies, the history of syphilis further excites the mind by the alluring charm of positive solutions. This poison, intangible, but real; this disturbance, hidden in its action, but patent in its effects; this state of incubation and latent period, speedily followed by disorders which manifest themselves outwardly; everything imparts, at the same time, to venereal affections, the mysterious character of medicine and the stamp of surgery. On every happy innovation, every discovery of details, the problem is believed to be solved. And this end, always in view, yet always distant, to which observation brings us nearer, while reflection separates us further from it, remains to excite efforts the more praiseworthy, after all, since their partial failures have never been altogether sterile, and since, like those of the alchemists in their aspirations after the absolute, they have often realised, by the way, more than one important practical improvement.

The syphilis of new-born children would alone abundantly justify these remarks. The obscurity of its origin, the unexplained

mechanism of its first effects, and the circumstance that its usual termination, at this age, is death, have naturally rendered special writers the more assiduous in their researches. Its history also, though somewhat modern as compared with that of general syphilis, is already rich in valuable monographs. A condition inherent in its very nature has hitherto, unfortunately, impeded the study of this disease, and appears to weigh fatally upon its nosological future. Profiting by the necessary obscurities of the subject, dogmatical writers have too often abused the opportunities of bringing forward hypotheses which they boldly urged as proved, simply because it had been impossible to demonstrate their incorrectness. Some have described congenital syphilis as a condition apart; exceptional in its ætiology; exceptional in its capability of destroying the fœtus without leaving any traces of its presence; exceptional in that its symptoms entirely elude the classification by periods so justly established in the adult; exceptional in the contagious property of *all* the lesions which it engenders.

Others, on the contrary, resuscitating the *theory of analogues*, admit the most perfect identity between the characters of fœtal poisoning and those of the diffusion of the poison of a chancre in an adult who has contracted it. In the propagation of the disease from parents to their children, they see only the phenomena of ordinary contagion. They follow, step by step, the transit of the infectious agent through the absorbents, in the embryo as in the adult. In the evolution of disorders which sometimes prove fatal in a few days, they still find time and space to distinguish a secondary and tertiary phase. Lastly, they deny the transmissibility of congenital syphilitic lesions.

If both parties had been content to accept experience, consulted freely and without afterthought, as an arbiter, we should rather have had reason to congratulate ourselves upon these dissentions, which, by evoking controversy, stimulate to investigation and accelerate the triumph of the good cause. But it would show great ignorance of our science and our age to imagine that truth could long remain intact in the midst of this conflict of rival opinions. The study of infantile syphilis ought to be an *end*; and it certainly appeared sufficiently important to satisfy the ambition of investigators, sufficiently arduous for all their zeal. Far from this; it has become either a *means* by which to arrive at a general theory of

syphilis, or, in the eyes of some, an *obstacle*, a stumbling-block for a doctrine, proof, until then, against any serious objection.

What has been the result? Animated by discussion, neither party has remained within the bounds of moderation. The solution of this pathological problem having thus degenerated into the proportions of one of those detail theorems intercalated to contribute to a main proof, every one has used the weapon in his own way or according to his own interests. As a *means*, its signification was strained; as an *obstacle*, men sought to avoid it or to overthrow it. Thus, instead of observing first, and then drawing their conclusions, they boldly took the latter step, and then sought to conform observation to these hastily formed opinions. Thus—common rock, upon which split all systems arrived at the acme of their fortunes—we have seen the best minds, forgetting the laws which they had themselves promulgated to the satisfaction of all, dispute the most adequate diagnostic signs; assume fraud where ignorance alone is responsible; assert the existence of immorality solely because its opposite is not easily demonstrated; set down, amongst all the instances of fœtal contagion, each of its victims as culpable; repudiate the most respectable evidence, the universal assentment, and the unanimous decision of all the authorities; refuse, in a word, to look at what is shown to them, that they may admit only what they wish to see.

The worst effect of this error—one with which each party may equally be reproached—is, that it tends to compromise indefinitely the future of science, by corrupting the sources themselves at which it might be purified. With this pertinacity in torturing facts—which strips them emulously, on both sides, of what is true in them, to leave them only what appears probable to each party—the elements of an exact history of congenital syphilis are, at the present day, very difficult to collect. Very few contemporary observations have been collated without the intention of supporting or attacking some theory, and as much precaution is required in the choice of them as discernment in their interpretation. In respect to some, the name of their reporter suffices to give the measure of the confidence they deserve. In others, it will be prudent to correct, by the aid of their indifferent circumstances, the exactness of those which may have been altered or assumed to suit a purpose. In others again, we may take the fact but reject the explanation of it. And it will, in the end, be safer, in disputed

questions, to rely by preference upon the experience of the older writers, who, unfettered by the systematic preoccupations of our period, relate simply what they have seen, and not what has been taught them.

Thus to defend the rights of observation against the pretensions of theory is the duty of every cultivator of medical science, and one which the practice of our art furnishes us only too many opportunities of fulfilling. But the obligation becomes more imperative and sacred when, as in the case of congenital syphilis, the usurpations of imagination over reality reveal themselves in the form of irreparable injuries to the health, the lives, and the honour of individuals, families, and nations. A man has just been cured of syphilis: how soon can he procreate safely? One, two, three successive pregnancies have terminated before the full time in the expulsion of an atrophied and, as it were, blighted fœtus. Is this a sign of venereal disease in the mother—a sufficient reason for subjecting her to specific treatment? A child is born covered with characteristic blots. Can we, without scruple, give it to a healthy woman to suckle? A nurse, previously robust and free from any venereal antecedents, presents ulcerations on the breasts having some resemblance to chancres. One school affirms that they are primary, and cannot be anything else. Must we accept its dictum, and deny that they may have resulted from suckling a syphilitic child, abstaining, consequently, from giving mercury to this woman? These are some of the hundred questions which practice daily evokes. But to these problems, which ask for and command an exact solution, experience often answers in the affirmative —a given doctrine in the negative. It is not surprising, then, that when it becomes necessary to choose between two such advisers, our choice is always made in favour of the fact against the pretended right. We may take pleasure in the spectacle of the human mind labouring to develop its synthetic creations; we may ourselves sometimes yield to temptation, and risk some steps on this path. But, in the face of dangers so grave, the interest of a system pales before that of humanity: positivism is no longer the mere desire of the philosopher, it rises to the rank of a social necessity, and everything must be placed in subordination to its laws. Such, at least, is my opinion; such will be my invariable rule of conduct in the course of this work.

To embrace in a complete and methodical classification the

numerous points connected with the history of syphilis in new-born children, this work has been divided into five parts :

The first is devoted to studying the mechanism of the development of the disease, its different origins, and the respective part played by each of them in its ulterior evolution—*Ætiology.*

The second comprises the description of the various forms, and no less variable progress of the disease—*Semeiology.*

The third treats of the dangers peculiar to syphilis at an early age, of the transmissibility of the lesions which it occasions, and of the mortality which it causes—*Prognosis.*

The fourth is more especially devoted to the discussion of the questions to which cases of this kind frequently give rise in courts of justice—*Medico-legal bearings.*

The fifth explains the treatment in all its details: preventive treatment; curative treatment; treatment direct or indirect; treatment of the child, the parents, and the nurse; prophylaxis to be employed by persons having relations with the infected nursling, &c.—*Treatment.*

ON SYPHILIS

IN

NEW-BORN CHILDREN AND IN CHILDREN AT THE BREAST.

PART I.—ÆTIOLOGY.

CHAPTER I.

HISTORICAL NOTICE.

It is necessary, before discussing the opinions which actually obtain concerning the various modes of transmission of syphilis to infants, to inquire what foundation these opinions have in the views of our predecessors; by what means they have successively become established or discredited in the minds of medical men; and whether those which now, from their early date, appear most respectable, are the result of serious observations or the product of popular prejudices.

But this historical notice, which was only touched upon by Mahon and Bertin, presents to us, at the outset, this singular fact, viz.: that the truth, caught sight of for a moment and clearly sketched out by the writers of the first period, soon became obscured by the speculative views which sacrificed the study of the objective phenomena of the disease itself to rash inquiries into its primordial cause, so that it afterwards required a complete change in the processes of scientific research to reunite the broken chain of sound traditions, and to place upon a firm basis the ætiological determination of congenital syphilis.

According to Mahon, Mathiolus (1536) was the first writer who mentioned the existence of syphilis in new-born infants. However, towards the end of the fifteenth century, Gaspard Torella (1498) wrote: "In pueris lactantibus prima infectio apparet in ore aut in facie; et hoc accidit propter mammas infectas, aut faciem, aut os nutricis, seu alicujus alterius. Solent enim nutrices sæpius infantes osculari, et sæpius vidi infantem infectum hoc morbo multas nutrices infecisse." In this passage he makes no allusion to the doubtful infection by the milk. The expression "propter mammas infectas" clearly proves that he admits of no transmission except by the contact of a local sore in the nurse with some part of the body of her suckling.

Cataneus (1505) believed firmly in the infectious influence of the nurse's milk, and advised that infants should not be intrusted to such as had had the *French disease*, even if they were perfectly cured of it; for, he adds, it is very apt to recur. The following very explicit phrase of his has often been quoted: Vidimus plures infantulos lactantes, tali morbo infectos, plures nutrices infecisse." But in comparing it with that which we have just borrowed from Torella, it is evident that Cataneus, if he really observed such facts, confined himself, in the description of them, to copying the text of his predecessor.

George Vella (1508) still believed in contamination by the nurse exclusively. Led by induction, however, he surmised another source of poisoning, and asked himself: "Quare autem parentes non generant prolem infectam, cum materia quæ subjicitur pro generatione spermatis sit infecta?" Unfortunately his experience did not yet suffice to mature these doubts, and he was content, in regard to the point at issue, with this negative solution of them: "Nisi esset quod, si subjicitur, non subjicitur immediatè, sed mediatè, et per plures transmissiones purificatur et a malitiâ illâ expoliatur."

Conrad Reitterius (1508) in his ode addressed to the Virgin Mary, to beseech her to arrest the ravages of this malady, confines himself to the mention of infection by nurses:

> "Non puer tutus teneris in annis,
> Quem suæ lactat genetricis uber."

Paracelsus (1529) was the first who asserted positively the reality of the most usual mode of the propagation of the malady, by spe-

cifying that, in certain cases, "fit morbus hereditarius, et transit a patre ad filium."

But almost immediately after the truth had been proclaimed error seems to have resumed its empire, for Nicholas Massa (1532), to whom it was sought to give the credit of this discovery, confines himself to quoting the case of three children, of the respective ages of three, six, and eleven years, whom he had seen affected with syphilis. And, as he adds that he could not have contracted it either by coitus or suckling, it was no doubt assumed that he concluded that they had inherited it. But besides that such a view is not to be found in any part of his work, the age of these patients alone shows that there could be no question with them of such a mode of propagation; for it is, in general, long before the third year that the symptoms of hereditary syphilis are developed, and it is almost unexampled that they have been delayed until the sixth and eleventh year. Everything seems to prove, therefore, that they had contracted the malady after birth, by contact with persons suffering from communicable forms of syphilis; unless, indeed, these had been instances of the retarded congenital syphilis to be mentioned hereafter.

Antonius Gallus (1540) writes, it is true: "Sensere quoque hanc labem virgines et infantes," but it is clear that he does not allude, in this phrase, to congenital syphilis, for infants are only introduced to complete the picture in which he shows the ravages of the disease attacking "tam viros quam fœminas, pueros quam senes, proceres quam mancipia, magistratus quam humilem plebem!"

The more we advance, the more does the light acquired lose in brightness. Thus, J. B. Theodosius (1541) merely says that "he fears this malady may be hereditary." But, to justify these suspicions, he has no better proof to offer than the observations of three brothers whom he had seen die of the consequences of the *French disease*. It appears that, according to his mode of reasoning, they could not all three have contracted it in the ordinary way, and that it was more reasonable to look for the common germ in their parents than in an impure connection on the part of each of them.

Montanus (1550) also alludes only to transmission by the nurse's milk.

Musa Brassavole (1553), however, a very learned writer, distinctly records three modes of transmission: I. That in which the

child has been infected by actual contact (subagitatus a turpissimo in moribus homine). II. That in which it has been suckled by an infected nurse. III. That in which, being itself infected, it communicates the disease to its nurse. We see that this description includes everything except the most usual mode of communication, that by generation.

Another writer of this period seems to have been on the right track. Augier Ferrier (1553) thus expresses himself: "Cum in utero morbus contrahitur, tanquam hereditarium fit malum, et tanquam corruptum elementum unâ cum paterno vel materno semine infunditur; aut si mater a die conceptionis in morbum inciderit, communicatio fœtui, vitiosis infectisque humoribus." The three modes in which infection may occur during intra-uterine life are here very clearly defined, and modern researches have added nothing to this distinction. Unfortunately, in establishing it, Ferrier appears to have trusted more to its probability than to its reality; for he does not allude to any observation of his own in support of it.

An almost equally positive assertion is met with in the work of one of his contemporaries. The following apparently decisive passage may be quoted from P. Hascharidus (1554): "Transmittitur per generationem, quoniam hic morbus humores vitiat et corrumpit; unde semen corruptem qui sic affecti sunt emittunt, et ex hoc proles vitiata ac corrupta creatur." But on reading the whole chapter it becomes evident that, far from relying upon facts or even a personal conviction, he has no other basis for this assertion than the belief of Hippocrates in the conformity of the semen with the peculiarities of the individual by whom it is secreted. Let us admit, however, that some of the developments of this doctrine appear to be proper to him. Thus, he says, "children are more severely infected when the infection is derived from the mother, because they then acquire the disease from a double source, generation and lactation." But among these definite assertions, justified though they have been by later experience, we do not meet with a single observation, or even a description! Perhaps, after all, we ought not to be much surprised at the gaps which we meet with in the works of the writers of this period. Where could they have found room for facts in the midst of their interminable dissertations on the primitive seat of the *French disease*, which they assume, almost unanimously, to be the liver; on its essential cause,

which they agree in attributing to an unhappy conjunction of the planets, of which one of them, Grunbeck, 1499, accuses two, Jupiter and Saturn, of having done all the mischief!

Could it have been that, at this period, the transmission of syphilis by generation rarely or never occurred? If the almost universal silence of the writers of the sixteenth century could have given rise to this idea it would have been dissipated by reading the following passage, in which Gabriel Fallopius (1555), after having asserted contagion by the milk, goes on thus; "Præterea videbitis puerulos nascentes ex fœminâ infectâ, ut ferant peccata parentum, qui videntur semi-cocti." To his mind, indeed, this proves only that the malady does not always commence in the genital organs, but in the part which has been in contact with an infected channel. Consequently, according to his views, this would only be an instance of what we now call, *infection during labour*. But the fact obtains independently of his erroneous explanation; and the characteristic expression *semi-cocti* bears ample testimony, in his day as in ours, to the influence exercised by the poison upon the child during intra-uterine life.

J. Fernel (1556) adopts as real all the possible agents of infection, the milk, the saliva, the sweat, and other secretions. The semen and ovum alone are not, perhaps, comprised in his enumeration.

Rondelet (1560) furnishes us, at last, with a fact. A fact! something precious for that period, despite the brevity of his description. "Ego vidi puerum nasci totum co-opertum (sic) pustulis morbi gallici." This is no longer a vague assertion, it is the author who has himself observed it. *Ego vidi*. . . . The interest attached to this case is doubled when we reflect that there is question not only of syphilis contracted by generation, but also of symptoms existing at birth, a circumstance of which even some modern writers on syphilis deny the possibility.

The views of our learned Ambrose Paré (1561) on this subject are not easily determined. If we refer, as Mahon has done, to his thirty-third chapter, *on syphilis occurring in young children*, we should have no reason to doubt that he had recognised hereditary transmission; for the chapter begins thus: "We often see infants who are born with this malady, and on whose bodies numerous pustules appear soon after birth." But, as previously, when treating of prognosis (chapter V), he declares positively that

"syphilis is never observed to be transmitted from father to son," his real meaning becomes clearer. When speaking of infants as being born with the disease, he only means, as it appears to me, that they are born with the germ of it; an explanation which the appearance of pustules *soon after birth*, and not immediately, tends further to confirm. According to his views, therefore, there is question only of infection during labour.

Botal (1563) might pass for an advocate of infection by generation, if we argue from what he omits as well as from what he asserts: "Pueri ex infectâ matre editi, inculpatum ætatum agent longævam, modo a sanâ nutrice aliti fuerint." Leaving out of the question the possibility of infection by the milk of the nurse, must we conclude, from this phrase, that if, on the contrary, they have not been fed with good milk, the infants will afterwards, in his opinion, suffer from the pathological consequences of infection by the mother.

In the seventeenth century we have Guyon-Dolois, who believes in hereditary syphilis, in infection by the milk, and in the transmissibility of the disease to the nurse. At a latter period, Musitanus insisted upon the last-named class of cases. Garnier occupied himself specially with the treatment of syphilitic children. De Bleguy, lastly, called attention to the accidental causes of contagion in new-born children, and to the infallible danger of infection by the milk of a nurse affected with the disease. But here we approach that less remote portion of the historical notice which Mahon has treated in as complete a manner as we have ourselves endeavoured to treat that of the earlier periods.

In the course of the eighteenth century there appeared, first, the special researches of Boerhaave, who describes the different sources and varying mechanism of infection. These were followed by Astruc's work, an erudite and profound dissertation, but confined to recognising and specifying the different share of the father and the mother in the contamination of their progeny, and to exaggerating the value of indirect treatment. Rosen was the first to call attention more particularly to symptoms, and to render more familiar, by their aid, a disease which had previously been studied almost exclusively in reference to its causes. Levret was chiefly occupied in demonstrating the power of mercury when administered at the proper time. Fabre, with as little of proof as of order, multiplied his divisions and subdivisions of the ætiology

of the disease. And lastly, the exaggerations of Sanchez, who saw syphilis everywhere in new-born infants, even to the *greenish colour of the excrements*, no less than the bold negations of Hunter, threatened to retard the study of this disease which was still so little advanced, when a special hospital was founded at Vaugirard, in 1780, for the reception of pregnant women affected with syphilis, and their infants. From that moment the possibility of observing the disease more closely on a larger scale, and of comparing the results of different modes of treatment, gave an impulse to the study of congenital syphilis, which has not since abated. The names of Faguer, Doublet, Bertin, Mahon, and Cullerier are closely connected with this revival, of which they were the chief promoters, and which they established on the most solid foundations.

But if we pursued the inquiry further in this form, history would incroach inconveniently upon the domain of pathology. The authors whose doctrines still remain to be explained, and the facts upon which they based them, will be mentioned in the course of this work. It sufficed for our present purpose to refer to their first origin the opinions which have successively obtained as to the various modes of infection in children, and to show under what patronage, in spite of what hesitations, and on what proofs they have taken their rise, their development, and lastly their right of citizenship in science.

CHAPTER II.

DEFINITION.—DIVISION.

The generality of special writers employ indifferently, in the designation of this disease, the terms hereditary syphilis, congenital syphilis, syphilis by generation, infantine syphilis, and syphilis of new-born children. These denominations, however, are not synonymous; some express a genus, others a species, others again, according to certain writers, only a simple variety. We must be careful, therefore, not to apply them indiscriminately to the various ætiological modifications of an affection which presents, in this particular respect, so much diversity.

An infant may contain syphilis: firstly, during intra-uterine life, through the formative or nutritive elements derived from its parents; secondly, during or after birth, by the absorption of the virus from some source or other. Hence we have two classes of phenomena which we shall study successively, under the designations of *congenital* and *acquired* syphilis.

Section A.

CONGENITAL SYPHILIS.

To determine how much is real in the different influences to which this kind of transmission of syphilis has been attributed, we must take the problem to pieces. We shall examine them one after the other, as well in reference to their derivation from each of the two parents, as to their being exercised before or after the moment of fecundation.

I.—*Influence of the Father.*

The father alone being syphilitic, can he communicate the disease to the child? If this question has been put doubtfully; if many

writers believe that the power of the father, in this respect, is much more limited than that of the mother; and if some others, as Vassal and Bouchet, still contest the reality of this power, we must attribute it to a circumstance peculiar to facts of this kind. The father, in fact, is very rarely affected with this disease without communicating it to the mother before or during pregnancy. And when the child is born with symptoms of syphilis, we do not know to which of the parents they are due. But since the mother,—the last to be infected, and, moreover, often ill-cared for on account of the obstacles which gestation opposes to treatment,—is most frequently at the time of her confinement the only one affected, it is in her that the symptoms are then observed, and it is she who is accused of having transmitted them.

However, despite these inherent difficulties in establishing the paternal influence, there are few specialists who have not been able to do so. I have been astonished, therefore, to see Trousseau (*Gazette des Hôp.*, 1846, p. 571), impute to Ricord the opinion, "That it is not possible for a syphilitic father to communicate the disease to the child, unless he has previously given a chancre to the mother." The illustrious surgeon of the hospital Du Midi has explained himself too clearly on this point, in various writings, to allow of our interpreting the prudent reserve which he is fond of exercising on the delicate question of paternity as a denial of the infecting influence of the real agent.

Moreover, numerous and precise facts furnish a positive demonstration of this theory. Professor Cederschjold[1] has frequently seen children affected, some weeks after birth, with copper-coloured spots on the forehead, ulcers about the arms, &c. He adds, "The mothers were healthy, and there was no reason to suppose that they had been infected."

Swediaur[2] quotes the case of a dragoon affected with venereal ulcer of the throat, whose child presented the same symptom. "The mother, he adds, has never had any venereal affection, and is still in perfect health."

Bertin, in his thirteenth observation,[3] relates the case of a woman, free from syphilis, and having had four very healthy children by her first husband, who married a second, who was affected with the disease, and gave birth, though

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[1] 'Tidscrift for Lakare,' b. vii, No. 10, 1840.

[2] 'Tr. comp. des Mal. vénér. ou syphil.,' t. ii, p. 11.

[3] 'Tr. de la Mal. vénér. chez les Enf. nouveau-nés,' p. 163.

herself perfectly healthy, both at the time and afterwards, to a little girl who had venereal ulcers of the mouth at the age of six weeks.

Depaul[1] recognised symptoms of syphilis in a new-born infant whose father had had an indurated chancre two months before fecundation. The mother asserted that she had never had any symptoms of venereal disease, "nor was any trace of such to be found upon any part of her body."

The recent work of Bertherand[2] contains the history of a similar case, in which the child, very severely affected, recovered under the administration of bichloride of mercury.

Haase[3] speaks of a child which presented evident symptoms of syphilis at birth, which were soon communicated to the nurse. The mother, who had already had three healthy children, was not syphilitic. The father had had some venereal affection a short time before.

Finally, if any doubts still remained, they would, I think, be dissipated by the perusal of the two following observations, in which all the precautions necessary for ensuring the special health of the mother appear to have been taken.

V. Cl. Guérard[4] mentions a woman of good family and excellent reputation, who gave birth to a child which was covered with yellow spots, and had ulcers, situated chiefly on the fingers and toes, which were unanimously recognised as syphilitic. The woman had never had any affection of this kind, not even leucorrhœa. The author examined her, and did not find any suspicious appearances. The husband confessed that while on a journey, a short time before begetting this child, he had contracted a chancre. On examination he was found to have copper-coloured spots on the forehead, feet, and sternal region, and to be suffering from pains in the bones. He was cured by bichloride of mercury, and the child by Hahneman's soluble mercury.

Bœhr[5] knew a Mr. W—, who got a chancre, of which he was cured by mercury. Some time after his cure his wife joined him; she soon became pregnant, and during the whole period of gestation showed no indication of syphilitic infection. She gave birth to a female child, which she suckled. When three weeks old the child was covered with deep, corroding ulcers on the buttocks, arms, and *labia majora*, and with copper-coloured spots on the calves of the legs. It also had coryza, with crusts of a peculiar character. The author administered mercury to the child, and its disease, which had resisted all means previously employed, began at once to improve, and was speedily cured.

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[1] 'Gaz. méd. de Paris,' 1851, p. 392.

[2] Page 331.

[3] 'Allgemein. mediz. Annal., Feb., 1829, p. 194.

[4] 'Journ. de Siebold,' t. x, § 553.

[5] 'Journ. der pract. Heilkunde,' 1836.

These are not the only facts which I could have collected, but they suffice to prove that the syphilis of the child very frequently acknowledges no other cause than syphilis in the father. This point being settled, another more practical and not less important question arises:

Will a man who has had syphilis, but who presents no symptom of the disease at the moment, beget a syphilitic child? This problem, which involves the most serious considerations of aptitude for marriage and procreation, has been variously solved. It seems natural to admit that a diathesis which does not yet manifest itself, or no longer manifests itself by sensible effects, should be less marked, and consequently less capable of transmission than one of which the symptoms are actually present. This opinion is the most general one; Rosen,[1] amongst others, formally avows it, and it is supported by several examples. The following is one which I have met with:

In June, 1849, a young man, Mr. D—, came into my consulting-room in tears. He was to marry, twelve months afterwards, a young person to whom he had been engaged from childhood, and he had contracted a chancre a month previously. The chancre being an indurated one I treated it with the proto-iodide of mercury, and as my patient was fearful, above all, that he might not be cured by the time fixed, I readily yielded to his repeated wishes, and did not spare the medicine or limit the period of the specific treatment. A fortnight or three weeks after his first visit a papular eruption appeared, accompanied by a tubercular ulceration of the tonsils. He took mercury, under my direction, for six months, so as to affect the gums slightly several times. Being still uneasy about himself, he wished for a consultation between my worthy colleague, Dr. Bottex, and myself. For the sole purpose of satisfying the patient, Dr. B., thinking he was quite cured, advised the use of Van Swieten's drops for three weeks.

Mr. D— married, and his wife soon became pregnant. About the third month of her pregnancy he went to the baths at Aix, and was very much alarmed, during the use of them, by the return of a well-marked papular eruption, accompanied by some mucous patches about the anus, which symptoms I had the opportunity of observing. He therefore looked forward to his wife's confinement with the greatest anxiety, as he feared to see the child covered with pustules. His fears were, fortunately, not realised. The child is at present two years old, and has always been perfectly healthy.

But if the immunity of the fœtus, under such circumstances, be possible, we should deceive ourselves, to the great prejudice of families, in believing it to be certain. Cullerier, surgeon to

[1] 'Rosen,' 1778, p. 541.

l'Ourcine, has told me that he believes this unfortunate power of transmitting syphilis to their children, although no traces of the disease are present at the moment of procreation, belongs to the mother alone, and not to the father. But this dangerous paradox of such a shrewd observer must be answered by facts only. The following are decisive ones:

Professor Cederschjold, whose authority I have already invoked, says that the fathers of the children which he had seen born with syphilis, although the mother was healthy, "had been treated shortly before cohabitation for primary symptoms; but that from this time they had remained free from any venereal affection, and suffered only from debility."

Mr. T— married after having had syphilis four times, for which he had been imperfectly treated. He was weak, but did not show any specific taint. A year afterwards, his wife, who had continued to enjoy good health, gave birth to a child which was to all appearance strong and healthy, but which, when three weeks old, had a well-marked pustular syphilitic eruption. It sank at the age of eleven months.[1]

But this condition of syphilitic diathesis without external manifestations presents two very different periods: either the individual affected has been, at the moment of procreation, between two successive outbreaks of constitutional symptoms; or else he has been in the interval which occurs between the first appearance of a primary sore and the first outbreak of secondary symptoms. *Is he equally capable, in the latter case as in the former, of transmitting syphilis by the semen?* The following cases leave us no ground for doubting this:

A young man had a chancre for the first time in the beginning of the summer of 1839. He was under mercurial treatment for seventy days, and married in the month of October of the same year, without having had any symptoms of constitutional syphilis. His wife became pregnant in January, 1840. In March the husband had some mucous patches upon the tonsils, for which he again took mercury. The child was born in September, 1840. On the third day it presented patches of a dull coppery-red colour, which spread over the whole body. These were accompanied by intense coryza. The child became gradually weaker, and sank in fifteen days.[2]

In 1823, Campbell, of Edinburgh,[3] attended a lady who miscarried at the

[1] Troncin, 'De l'Extinct. de la Mal. vénér.,' p. 50.

[2] Barserean, 'Tr. des Affections de la Peau. Symptôm. de la Syphilis,' 1852, p. 540.

[3] 'Lond. and Edinb. Monthly Journal,' 1844, p. 514.

sixth month. The same thing had happened to her in a former pregnancy, and occurred for the third time in 1824. The husband was a young medical man, and acknowledged having had, six months before marriage, a sore which had been diagnosed as a chancre by himself and by some of his medical acquaintance. No other symptom manifested itself up to the time of his marriage. Campbell could not detect any evidence of syphilis in either of the parents. He placed them both under the influence of mercury. The lady soon became pregnant again, and gave birth at the full time to a well-formed male child, which lived without having syphilis.

Besides the very positive answer which these observations furnish to the last question, I shall draw from them two practical conclusions. The first is, that mercurial treatment, although commenced on the first appearance of a primary sore and long continued, neither prevents nor corrects with certainty the special perversion which the generative function has undergone. The second, to judge, at least, from the facts just mentioned, is, that the fœtus does not appear to be infected less severely by a father in the incubation period of syphilis than by one in whom the disease is fully developed. I shall also refuse, for the present, to accept the opinion which Prieur[1] quotes from Ricord's lectures: "The conditions transmitted are those of the parents at the moment of procreation; if the syphilitic affection be recent, the influence is less than if severe symptoms had gone before."

Nor is it necessary, after the preceding observations, to combat the opinion of those who sustain that a father cannot transmit syphilis to his child, because the semen of an individual so affected is *incapable of causing fecundation*. The responsibility of such an opinion must be left to the speculative writers of the last century, by whom it was advocated. I cannot quit this part of the subject without some words on a question which has been raised by Hunter and Nisbett:

Can a man who is affected with syphilis and has connexion with a pregnant woman, communicate the disease directly to the fœtus, without infecting the mother? Strange as this question may appear to be, it is nevertheless necessary to discuss it, as it has been seriously entertained by several writers on syphilis. As early as 1698, de Blegny[2] remarked, that "we frequently see children born with syphilis, although the semen which had induced conception was pure, because the mothers had cohabited during pregnancy with men imperfectly

[1] 'Thèses de Paris,' 1851.

[2] Page 101.

cured of the same disease." Hunter[1] says that "the contagious matter may, without setting up any syphilitic action in the tissues of the mother, be conveyed to the fœtus in the same state in which it has been absorbed, and develop in it the same morbid action which it would have developed in the mother." Nisbett also thinks that "the venereal poison which circulates in the general mass may infect the fœtus without affecting the mother." This idea of an influence exercised by the father upon the already-formed fœtus is so general, that barbarous nations believe in its continuance beyond the moment of birth. Amongst the Caraibans, as we are told by M. Lucas,[2] the father, immediately after the delivery of the mother, "keeps his bed and abstains for six months from eating birds or fish, for fear the new-born infant should participate in the defects natural to those animals."

Moreover, this action of a poison capable of affecting the fœtus without compromising the mother, is rendered more than probable by daily experience. If smallpox may be present in the fœtus, whilst the mother remains exempt, instances of which have been observed by Mead,[3] Deneux[4], Piednagel,[5] Lebert, Depaul,[6] and Simpson,[7] why may not a very analogous agent, the poison of syphilis, possess the same property, and produce its effects in the product of conception alone? Lawrence, arguing from this analogy with smallpox, thinks that the father may, without communicating the disease to the mother, transmit syphilis to the fœtus with which she is pregnant.

The following is a case published in support of this theory:

A man affected with primary syphilis had connexion with his wife when she was in the sixth or seventh month of pregnancy. She was not infected. At the full time she was delivered of an infant which presented, soon after birth, well-marked syphilitic pustules, and died in nine days. The father soon afterwards had symptoms of constitutional syphilis, and was cured of them by mercurial inunctions.[8]

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[1] 'Traité de la Mal. vénér.,' 1852, p. 564.
[2] 'Traité de l'Hérédité,' t. ii, p. 12.
[3] 'Traité de la petite Vérole,' chap. iv, p. 337.
[4] 'Gaz. Méd. de Paris,' 1852, p. 14.
[5] 'Gaz. des Hôp.,' 1845, p. 304.
[6] 'Gaz. Méd. de Paris,' 1849, p. 252.
[7] 'Edinb. Month. Journ. of Medical Science,' April, 1849.
[8] Albers, 'Ueber Erkenntniss und Kur der Syphilis, Hautkrankheit,' p. 19.

In facts of this kind we must distinguish between appearance and reality, between the improbable inference drawn from them and the rational explanation of which they admit. Serious men will surely regard as fabulous the hypothesis of an influence exercised by the vitiated semen of a man upon a fœtus of some weeks or months. Between two such beings no direct relation is possible. But may not the organism of the mother serve as a mode of communication from the one to the other? May not her circulating system be capable of so circumscribing and isolating the poison, as to transmit it from the man with whom she cohabits to the infant which she bears in the womb, without allowing it to be developed in and to infect herself? Numerous analogies forbid an absolutely negative answer to this question. From the observations of Mayo, Giles, Guérin, Devay, Gillivray, Allen Thompson, d'Olgive, and Fournet, on the transmission of certain characteristics in animals, and of certain diseases in the human race, it cannot be doubted that a healthy widow, who takes for her second husband a man whose sanitary condition is unexceptionable, may from this source have children tainted with a defect inherent in the former husband. But what else is this than the transmission of a morbid influence directly from the father to the child through the organic system of the mother, acting as a simple conductor, and not as a participating medium? I shall quote, in reference to the kind of morbid influence here specially in question, an instance which proves this mode of transmission.

A man had intractable syphilis, for which he was treated at the Hôpital du Midi, and of which he died. While he was suffering from this disease his wife gave birth to a female child, which had, at the age of two months, ulcerations about the vulva, and died without having had any remedy administered.

The wife asserted that she had never, at any period of her life, had syphilis. Eighteen months after her first confinement, she married a healthy man, and had a child by him which presented spots upon the genitals and forehead similar to those of the child by her former marriage. Not being able to get it cured, she went into l'Ourcine with it. At the age of four months and a half this child had well-marked syphilitic tubercles on the forehead, mouth, thighs, buttocks, and scrotum.

A careful examination of the woman gave no evidence of any present or previous venereal affection. On the fore part of the neck a small patch of granular redness was observable.[1]

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[1] This case is reported by Vidal ('Gaz. des Hôp.,' 1841, p. 545). He considers the *granular redness* of the neck as sufficient evidence of the existence of

These details are exact and of a nature, as it appears to me, to bring conviction. But, since the vitiated semen of a first husband may leave behind it in his wife an impression capable of infecting her subsequent children, the offspring of another than himself, why may it not make this same impression in the case of an infant recently engendered, and which has still to undergo, for six or seven months, the influence of nutrition through the placenta? I have no wish to deny the differences which exist between the two cases; but are they so wide that, the one being now acknowledged as almost proved, we are justified, without further evidence, in regarding the other as improbable or absolutely impossible?

We may draw, as a practical conclusion from the foregoing data, an inference opposed to most of the doctrines now in vogue, viz., that when a man, affected with syphilis, has had connexion with a pregnant woman, especially if she have not been pregnant long, we must not, even if she remain healthy, calculate with certainty that the child will be exempt; and that it will be prudent to watch it carefully during the first months of its life.

II.—*Influence of the Mother.*

A woman suffering from constitutional syphilis may affect the fœtus in two different ways: either by throwing off a vitiated ovum, or by furnishing it, during pregnancy, with elements of nutrition imbued with the specific diathesis. Hence arise two possible infecting conditions in her: either she had syphilis at the moment of conception, or she contracted it subsequently. Let us study these two different cases one after the other.

A. *Influence of the mother infected before the moment of conception.*—This influence is clear, patent, and undeniable. Founded upon reason, supported by innumerable facts, no author has ventured to doubt it, and I know of no writer, except Cazenave,[1] who has described it as less potent than that exercised by the father.

a syphilitic diathesis in this woman. But can a lesion so slight, and so evidently the result of pure and simple inflammation, legitimately be made to bear such a signification? And shall we not be interpreting the case more correctly if we place it amongst the number of those which prove the power possessed by the economy of the mother of transmitting (without becoming itself implicated) the poison of syphilis from the father to the child?

[1] 'Traité des Syphilides,' p. 134.

However, without wishing to dispute the conclusions from daily experience, I must observe that the proof of this apparently so simple fact is almost inevitably subject to a grave cause of error. A woman affected with syphilis gives birth to a syphilitic child. The paternity appears clear, and the mother is accused—the mother who is before our eyes with symptoms or traces significant of the disease. But who shall answer for the father, who is absent, or unknown, or cured at the time of delivery? Who shall prove that it is not by his act that the diathesis has been transmitted to the product of conception? How can we know whether he has not at least had a share therein; or whether, without the intervention of vitiated semen, the woman, although diseased, might not have thrown off a healthy ovum, and borne it as such to the full term of gestation? The fact is the more difficult to verify, because it is most frequently the same man who has communicated the disease to the woman who becomes the father of her children.

To solve this problem, therefore, it will not suffice to accumulate promiscuously cases in which a syphilitic child has been born of a syphilitic mother, but we must rather profit by those rare cases in which, the influence of the father being accidentally annihilated, it is possible to determine more exactly the part played by the mother.

If, for instance, a woman who has contracted syphilis from her first husband becomes a widow and marries another man free from such antecedents, and if the children which she has by this second marriage present manifest symptoms of syphilis, does it not appear evident that they can have derived it from the mother alone? And this concatenation of circumstances is frequently met with. The following history furnishes a proof sufficiently circumstantial to deserve notice.

The widow C— consulted M. Vassal in September, 1779 (*sic*, 1799 ?), on account of two buboes and sixty venereal warts about the vulva and perinæum. He gave her mercury for three months. She married again, and became pregnant in 1801. The child, given to nurse to a woman of whose healthy state the author had convinced himself, presented some moist pustules about the genital organs after the expiration of thirty-five days. About the same time the husband died of fever, without ever having had any symptom of syphilis.

She married once more, 1804, and gave birth to two weakly, wrinkled children, whose skin peeled off, and who were attacked by jaundice on the fifth day. One sank on the ninth, the other on the twelfth day. In 1807 she became pregnant for the fourth time. The child, intrusted to a healthy nurse, had, at

the expiration of thirty-two days, thick crusts on the forehead and at the roots of the hair, with copious fetid suppuration. It was treated with mercury and recovered. The mother, although she had for a long time had no traces of syphilis, and had never communicated the disease to any of her husbands, determined, for the sake of her possible future children, to go through a course of mercury.[1]

Many observations of this kind might be quoted; but, as proofs of the exclusive infecting power of the mother, they would always remain open to one serious objection. For nothing forbids the supposition that here, as in the cases mentioned in the preceding chapter, it is the influence of the former father which, persisting in the organism of the mother, has alone conveyed the venereal taint to her subsequent children. We must examine the question, therefore, under different conditions.

But to clear up this difficulty, the best means is the history of cases in which syphilis has been communicated by lactation. Thus, a woman, previously healthy, begins to suckle a syphilitic child, and the disease is communicated to her. She then becomes pregnant, and is delivered of a syphilitic child. This series of phenomena evidently contains the proof I was in search of, for the husband of the nurse has remained out of the field of the succession of syphilo-genetic phenomena; he has had only an irreproachable share in the procreation of his child. The mother alone was diseased, and that recently, and in a manner which leaves neither doubt, nor suspicion, nor mystery. To her alone, therefore, must we impute the infection of the child to which she has given birth.

Examples of this succession of events are by no means rare, but it will only be necessary to quote a few such to show that they have been recognised by the most competent observers.

A healthy nurse had suckled with good effect for three months the female child of M. de B—, when she took a second child to nurse, which, fifteen days after birth, had mucous patches about the vulva and mouth, and died in three months.

The woman, three months after the death of the latter child, observed, on her own body, a great number of mucous patches about the genital organs. Six months afterwards, having been delivered of a female child, her infant, which at birth had every appearance of health, and which she suckled also, presented,

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[1] Vassal, 'Mém. sur la transmiss. du virus vénér. de la Mère à l'Enfant,' Paris, 1807, p. 40.

at the age of two months and a half, about thirty mucous patches on the vulva perinæum, and upper part of the thighs.[1]

Lallemand[2] relates the case of Madame de C—, the wife of a colonel who had had syphilis several times, and who had communicated the disease to her. Their children presented all the symptoms of this disease, of which the first three died. The fourth child had the same symptoms—copper-coloured spots on the skin and pustules about the anus. The nurse to whom it was intrusted had ulceration of the breast, and was imperfectly treated. She then became pregnant and gave birth to a weakly, emaciated child, which lived only five days. At the expiration of fifteen months she had a second child, which continued healthy for three months, but then presented brown spots and tubercles about the lips and fundament, which M. de C— recognised as exactly similar to those which had appeared in his own children. Lallemand subjected this woman to a methodical and complete course of treatment. She has since borne a child which, says the author, is now eighteen months old, and has never exhibited the least trace of venereal affection.

Bertherand[3] relates the case of a healthy nurse, whose antecedents were good, and to whom the child of a Mrs. O— was given to nurse. Soon afterwards she suckled another child, which had syphilitic tubercles in the groins and a purulent discharge from the mouth and nose, and died in three months. The nurse had mucous patches about the vulva. She ultimately became pregnant and was delivered, says Bertherand, of a syphilitic child.

Lastly, Bardinet[4] gives the history of a woman, Fra —, who, having taken to nurse a child affected with hereditary syphilis, had, at the end of two months, specific ulcers on the breasts. Becoming pregnant afterwards, she was delivered of a still-born child. Some time afterwards she again became pregnant, and gave birth to a child in which were developed, about the third month, mucous pustules at the margin of the anus, and ulcers in the throat.

But a still more convincing proof in this respect is that observed by Bergeret, in which the child of a woman C—, died of constitutional syphilis at the age of seven weeks. But the woman, C—, had herself contracted the disease from a nursling, to which it had been communicated by a neighbour, the woman N—, who had taken it from a nursling infected from being suckled

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[1] M. Cazenave, 'Revue Méd. de Paris,' 1852, p. 409.

[2] 'Journ. Univ.,' t. xxvii, p. 132.

[3] 'Précis des Mal. vénér.,' 1852, p. 336.

[4] Bardinet ('De la Syphilis héréditaire et de sa transmissibilité). This remarkable monograph, destined especially to prove the communicability of hereditary syphilis by lactation, was presented to the Academy of Medicine in Paris, on the 28th December, 1852. The author placed this work at my disposal before its publication, with a readiness for which others besides myself have cause to be grateful. But whatever interest my readers may feel in the observations which I have felt authorised to borrow from him, it cannot approach the impression which this work, so rich in facts and so powerful in its deductions, cannot fail to make when known in its entirety.

by the woman P—, which latter individual had herself been infected by a strange nursling.[1] From this fearful series of transmissions we will, at this moment, infer nothing beyond the possibility of the infection of a child by means of an influence which has acted exclusively upon the mother. It must be added, however, that before she was attacked by syphilis the woman C— had had five children, all of robust constitution and excellent health.

To resume my subject, the cases of syphilis transmitted to a child by a mother who had been infected by her husband are so numerous as to have sufficed to bring conviction of the reality of infection by an ovum tainted with this poison. To me, however, they render the fact probable rather than certain; but if we accord their true value to those last mentioned, I cannot think that the theory to which they have reference will any longer be disputed.

B. *Influence of the mother infected after conception.*—Several writers have restricted the name of *congenital* syphilis to the affection which depends upon this cause, giving that of *hereditary* to that which is communicated by parents suffering from constitutional syphilis previous to fecundation. Of these two varieties they make two species, as different in regard to the progress, symptoms, and importance of the disease, as in reference to its ætiology. We shall see, further on, when treating of the evolution of this affection, what is to be thought of such a theory. At the present moment we must occupy ourselves with a single object, viz., to establish the existence of this cause of infection, and to determine the conditions under which it realises its effects.

I had collected a certain number of instances of fœtal syphilis resulting from an infection communicated to the mother ulteriorly to conception, but as no one now doubts the fact, it seemed entirely superfluous to swell my work with these proofs. Who now disputes this influence exercised upon the child by the impure materials of nutrition thus furnished to it by the circulation of the mother?

Another question in reference to this subject is of more direct practical interest: *Up to what period of pregnancy can syphilis, then first contracted by the mother, be communicated to the fœtus?* In other words: *Is there a period of pregnancy after which syphilis contracted by the mother can no longer be transmitted to the fœtus?*

[1] 'Le Moniteur des Hôpitaux,' Nov. 29, 1853.

On examining more closely the relations which exist between the embryo and its mother, and the successive modifications which these relations undergo, we learn that the more gestation advances the more do these bonds become loosened. After the formation of the blastoderm, the nutritive fluids pass directly through the membranes of the ovum. From the third week to the fortieth day the umbilical vesicle contributes to the vegetative existence of the embryo, by means of the omphalo-mesenteric vessels. As it disappears it is replaced by the allantois, the first commencement of the circulation between the mother and her fœtus. At a later period the allantois, pushing back the chorion, becomes covered with villosities at the point where the latter adheres to the uterus, and then the placental circulation is established with its principal organ. With the placenta, which holds blood in reserve, with a heart which throws blood into all parts of its body, the fœtus has attained a position already less dependent, in anticipation of the moment when the exercise of its digestive functions and the play of its lungs shall permit it to fulfil its own requirements. Thus the ovum, at first simply a portion of an organ of the mother, is nourished, as it were, by imbibition; it then becomes the seat of a new vascular development; it soon acquires two sets of vessels, and, subjecting the blood which is sent to it to a certain degree of elaboration, finally leads an organic life more and more independent, until it becomes entirely separated from the being upon which it had been grafted.

In these transformations we easily recognise four very distinct periods in reference to the dependence of the embryo upon the mother. At first it is but a portion of her substance; in the second place, and during some time, it subsists and grows exclusively at the expense of the albuminous matter by which it is surrounded in the fallopian tube, and of the vitelline membrane. Hence I am convinced that if a woman contracted syphilis two or three days after conception, and was rapidly cured, the child would not show any symptoms of the disease. It is true, indeed, that this hypothesis is not of a nature ever to receive the sanction of positive experience, but I believe that it furnishes a logical explanation of more than one case in which, from our not admitting it, we are surprised to see a woman who has contracted syphilis during the first weeks of her pregnancy afterwards give birth to a healthy child.

At a third period of gestation the two vascular currents, that of the embryo and of the mother, unite, and the relations become more intimate and direct. It is then that transmission by the blood—true contagion, whatever may be said otherwise—becomes possible, and actually occurs. At this period, if the mother be really the subject of the diathesis, we cannot well understand how the fœtus can escape this source of poisoning, this forced influence, so to speak, which is constantly distilling, drop by drop, as it were, a poison into its veins, against the introduction of which nature has not furnished it with any means of defence.

The fourth period has no fixed limit, or at least no distinct starting point, being connected by a gradual transition with the preceding one. The fœtus frees itself more and more from the maternal envelope, and abortion at this period, from causes affecting the mother, becomes much more rare. But at what moment does this independence reach a point at which the fœtus is no longer subject to syphilitic disease, then first contracted by the mother? This we do not know; but what is certain, and what the opinions of the best observers and daily experience confirm is, that during the last months of pregnancy this influence becomes weakened and eventually annihilated.

I am glad to be able to invoke in support of these laws, deduced clearly from physiological data, an authority so decisive on such questions as that of Ricord. Led probably by the same reasoning, he has arrived at the same conclusions concerning the independence of the ovum in the earlier periods of pregnancy. "When it is the mother who infects the fœtus," he wrote to me on the 16th of March, 1849, "*it is only at a certain period of gestation that this occurs;* the ovum does not appear to have the same influence, or to be *at the first* under the same conditions, as the semen or fecundating matter." This passage, in spite of its brevity, will be a sufficient answer to the question put by Prieur,[1] whether "there are any well authenticated cases on record of mothers affected with secondary syphilis, during the first months of pregnancy, who did not transmit the disease to their children?" Except in reference to the first weeks of pregnancy, however, we are entirely of the opinion of Prieur as to the almost certain transmission under such circumstances.

[1] 'Thèses de Paris,' 1851, p. 28.

As for the immunity peculiar to the other extremity of gestation, it equally has its advocates amongst the most competent observers. "Until the sixth month," said Ricord to his clinical class in 1847, "the mother may transmit constitutional syphilis acquired during gestation; but if the infection of the mother take place during the last three months, *it is not certain* that transmission is possible." Prieur also, who has specially treated on this subject, writes: "We have no example of hereditary syphilis in which the mother was infected during the last two months of pregnancy." I have felt anxious to establish the correctness of this principle, which may be said to have been, hitherto, rather accepted than demonstrated experimentally.

It is remarkable enough, indeed, that no authentic observation has been advanced to refute this law. Facts are wanting, it is true, to prove that a pregnant woman can, with impunity to the child, contract syphilis two or three months before the full term of gestation. But why is this so? Simply because the child is then born healthy, and it is not usual to publish observations in which the absence of disease in the subjects of them is the only circumstance to be noted. But the counter-proof is easily furnished; for if we take the trouble of examining all the cases of children infected in this manner, where the period of infection of the mother has been observed, we shall recognise that it has always occurred before the seventh or eighth month. Starck [1] saw a young servant woman, *four months pregnant,* who contracted a primary chancre, of which she was cured before the seventh month, and was delivered at the full time of a little girl who had an ulcer on the *velum palati,* and copper-coloured spots on various parts of the body. Gilbert [2] mentions a woman twenty-five years old and *six weeks pregnant,* who cohabited with a man suffering from syphilis, and afterwards had pustular ulcers on the *labia majora.* After a treatment of sixty days' duration in the venereal hospital in Paris, she was delivered of a weakly child in the seventh month. At the end of four weeks, large red, moist, and tubercular pustules appeared upon the scrotum, anus, and inner surface of the thighs of the child, which infected its nurse. The woman G—, mentioned by M. Depaul,[3] had contracted a chancre *in the second month of her pregnancy.* Three

[1] 'Edinb. Med. and Surg. Journal,' 1851, p. 366.
[2] Vassal, op. cit., p. 50.
[3] 'Gaz. Méd. de Paris,' 1851, p. 472.

months afterwards she had pustules on the genitals. In the eighth month she was delivered of a female child, which died with syphilitic symptoms on the skin and in the lungs. Marie Des—, whose case has been related by Bertin,[1] had always enjoyed excellent health until, *about the middle of her first pregnancy*, she observed some pimples and a discharge from the vagina. She was delivered, in the sixth month, of a still-born child, and afterwards bore others which presented evident signs of constitutional syphilis. Another woman[2] had had, when pregnant *three months and a half*, a chancre on one of the *labia majora* and ulcers on the tonsils. In spite of a long-continued treatment by Van Swieten's drops, her child was affected, three weeks after birth, with pustular ulcers on the buttocks. Another women[3] had been pregnant six weeks, when she was attacked by pustules on the *labia majora;* she miscarried at four months and a half. P. Dubois[4] has published the case of a woman, aged nineteen, who contracted, at the fifth month of pregnancy, a primary sore on the lower lip, which was soon followed by general symptoms. She was delivered of a child, which died on the eighth day with pemphigus and sanguineous infiltration of the lungs. Mr. P—, after having had a primary sore for some days, had connexion with his wife when she was in *the seventh month* of pregnancy, and gave her a similar sore. Baumès[5] treated them both with Van Swieten's drops and sudorifics. The mother had, nevertheless, copper-coloured papulæ on the forehead, and ulceration of the tonsils. She was delivered of a child apparently healthy, which was given to nurse to a young woman, in whom, when examined most minutely by Baumès, no disease was discovered. At the end of thirteen days the child had pustules of syphilitic ecthyma on the buttocks, chest, and cheeks. It was cured by mercurial treatment. Michon and Bouchut[6] saw at "La Pitié" a woman who had contracted syphilis *in the first month of pregnancy*, and had had flat pustules on the body and scalp. The child was born at seven months, with mucous patches, and red, brownish, copper-coloured pustules on the arms and legs, and onyxis on all the

[1] Op. citat., p. 142.
[2] Same work, p. 157.
[3] Same work, p. 159.
[4] Bouchut, 'Traité prat. des Mal. vénér. des nouv.-nés,' 1852, p. 878.
[5] 'Précis théor. et prat. des Mal. vénér.,' t. i, p. 169.
[6] Bouchut, op. citat., p. 859.

fingers and toes. It lived only three days. The autopsy did not show any visceral lesion. Marie Fill—[1] was affected, in the *sixth month* of pregnancy, with pustules more or less raised on the whole surface of the labia, perinæum, and anus. She was not submitted to any treatment. She was delivered, at the eighth month, of a little girl who had syphilitic pustules on the buttocks and about the anus when eight days old, and was cured by inunction. Madame B— (a patient of my own) had from contagion mucous tubercles in the throat, followed by very well-marked symptoms of constitutional syphilis. The infection occurred at *the commencement of the seventh month.* She mistook the nature of her disease, and did not undergo any treatment. Her child, born at the full time, died at the end of five months, in spite of active treatment, from pemphigus and mucous tubercles on various parts of the body.

From an analysis of these eleven cases, thus summarily described, it appears that syphilis contracted by the mother, whether before the fourth week or after the completion of the seventh month of pregnancy, has never produced the disease in the fœtus. This latter term of seven months had already been fixed *à priori* by Abernethy. Perhaps further observations will serve to shake this inference, and to extend the limits which I have felt justified in fixing. But it is probable that the difference, if established at all, will not be of a kind to nullify the immunity of which I believe the fœtus to be assured at the two extremes of intra-uterine life.

These inquiries have not been undertaken from mere curiosity, or for the attainment of abstract scientific precision. In the first place, it is well known that anti-syphilitic remedies are ill borne in the semi-pathological condition which often exists during the last months of pregnancy. If a woman contract syphilis at this period,[2] it would be very useful to know that the health of the fœtus does not call for specific treatment, which it would only be necessary to carry out with a certain degree of vigour before delivery when the symptoms in the mother are extremely severe. It must not be forgotten, however, that primary sores will always

[1] Bertin, p. 155.

[2] This occurrence cannot be so rare as might, at first sight, be supposed; for Parent-Duchatelet only confirmed a known fact, when he remarked that women arrived at an advanced stage of pregnancy are the most sought after by certain men, and precisely by those most likely to infect them.

render active treatment necessary, for fear of infection during the passage of the child, if they existed at the time of delivery.

Again, under similar circumstances, a child born apparently healthy, of a woman who had contracted syphilis in the eighth or ninth month only, might be intrusted to a nurse without fear of communicating the disease to her, a guarantee which we are far from having when the child has been born of a mother infected during the first months of pregnancy.

But new and more varied observations are required for the definite solution of these questions, which it was my duty to put, but which are too important to be answered by the aid of mere assumptions or of an insufficient number of facts.

III.—*Combined Influence of both Parents.*

If, at the moment of fecundation, both the father and the mother are affected with constitutional syphilis, the infection of the fœtus is, it is said, obligatory and certain. All the writers on syphilis are agreed on this point; and the most recent amongst them, Maisonneuve and Montanier[1] have only summed up the opinions already published when they affirm that in such a case "the fœtus has no chance of escaping infection."

For my own part I believe that this conclusion has been made somewhat too hastily, and that so serious a sentence demanded, at least, more conclusive evidence. We should first take into consideration the syphilitic conditions in which each of the two parents is placed; for they are, at the moment of fecundation, under the influence of a diathesis weakened by time and by the action of numerous remedies, &c.; whence we may certainly draw conclusions reassuring for the product of conception. At the worst, the infection of both parents can only expose it to two noxious influences instead of one. But if the disease be slight in each of the parents, may it not be the case that this double chance is less serious than the single one, with which one only of the parents, being severely affected, would have threatened its future health? To me the answer does not appear doubtful; and though it would then be almost certain that the child would be born syphilitic, I cannot think that it would be more than almost certain.

The proposition which I have just been examining leads me to the

[1] 'Traité prat. des Mal. vénér.,' 1853, p. 369.

study of a more important subject. It has long been observed that, in a family where one only of the parents is syphilitic, not all the children are born with the disease. It happens sometimes, as has been observed by Sallion,[1] that between two deliveries which have been followed by such an unhappy result, one has occurred the product of which was born and remained exempt from any traces of venereal affection. It is then certain that when one of the parents is the subject of syphilis the child may yet be born healthy. Upon what does this phenomenon depend? Is it that, at the moment of conception, the diathesis slumbered in the individual in question? or is it rather that the influence of the healthy individual corrected the morbific influence inherent in the other?

Ricord[2] has been said to have affirmed that when one only of the parents has syphilis the healthy one transmits his or her immunity to the child. It is very evident that the idea of this celebrated writer on syphilis has been exaggerated; for, under the working of such a law, both parents being but rarely affected with the disease, the number of new-born infants presenting symptoms of syphilis ought to be much smaller than it is. But in regarding this pretended law as a simple possibility, we confine ourselves to the expression of facts, and publish a truth which physiology admits of, and experience confirms. It will always be possible, indeed, to assert that if a child be born with a state of health differing from that of those which have preceded or followed it, it is that the parents themselves have not, at the time of these successive fecundations, remained in the same condition of health. But certain examples render so evident the influence exercised in this respect by the preponderating action either of the male or of the female, that we cannot do otherwise than attribute to it the chief part in the production of the phenomenon.

Thus C. F. Haase[3] has seen a young girl, married at seventeen, who was first delivered of a female child, born weakly, which lived, but continued scrofulous. In a second pregnancy a female child died at the commencement of the ninth month; in a third, the same result; finally, in her fourth pregnancy, she went to her full time, and gave birth to a male child which offered a striking resemblance to its father. This child was ill-developed, had an old look, and the skin peeled off the palms of the hands and soles of the feet. It cried

[1] 'Compte rendu du Congrès de Nantes,' p. 116.
[2] Prieur, 'Thèse,' 1851, p. 28.
[3] 'Commentatio,' Dresden, 1828, p. 14.

incessantly. It had large ulcers on the buttocks, nostrils, and mouth, and died on the twentieth day, after having infected the nurse and another attendant. The father confessed that, a short time before his marriage, he had contracted syphilis while in Germany.

The fact that the fourth child was affected more or less than the preceding ones, is not what ought to preoccupy us here. The circumstance to which I particularly wish to call attention is that, on the one hand, it was affected differently; and, on the other hand, that its sex and resemblance betray the cause of this difference in the more direct participation of the father in the formation of its constitution. Baumès relates a case absolutely similar to this, which I give in detail. (See Part II.)

As it might be alleged, however, that the diathesis of the parents is modified between two pregnancies, and that this has been the sole cause of the absence or presence of syphilis in the different children, other proofs must be furnished.

The following are, I think, irrefutable:

A woman contracted syphilis from suckling an infected child. She was afterwards delivered of twins, of which one was syphilitic, the other still-born. She had previously borne a healthy child.[1]

Here two children resulting from the same pregnancy are infected in different degrees, or at least in a different manner. But it was the mother alone who was diseased, as she had not been infected by her husband. The correcting or neutralizing influence of the father, in regard to the poison, did not act in the same manner, therefore, upon each of them.

The same applies to the following case:

In 1823, a pupil of Campbell's[2] delivered a woman of twins, at the full time. The first was still-born, and quite decomposed; the second vigorous and healthy. For some weeks the cause of this difference continued unexplained, but the surviving child then presented unequivocal signs of syphilis, and the mother soon after had secondary symptoms.

The fact of twin pregnancy and of the simultaneous formation of two children, excludes, in this case, any explanation founded on a modification occurring in the constitution of the parents. For this modification, of whatever kind it might be, would require time. To explain the difference between the children, therefore, we must

[1] Mr. Price (Margate), 'Abstract of the Med. Sciences,' p. 280.
[2] 'London and Edinb. Month. Journ.,' 1844, p. 515.

have recourse to the different influence, upon the one and upon the other, of the paternal and maternal type.

This theory is further strongly confirmed by the instances in which the same woman successively produces healthy or syphilitic children, according to the father she gives them.

A woman[1] infected by her husband had several pregnancies, which all terminated, about the seventh or eighth month, in the expulsion of still-born children bearing evident marks of syphilis. One born later, alive, died during the first year, syphilitic in the highest degree. Still later, she had a healthy female child by another man, although she herself was not cured of her syphilis, and had had, during pregnancy, an enlargement of the tibia accompanied by pains which almost prevented her from walking.

Another woman,[2] having had connexion with a man affected with syphilis, had afterwards shown evident symptoms of this disease. She married another man, and had several healthy children by him. Having again met with her former paramour she became pregnant and the child was born, this time, covered with a varioloid syphilitic eruption, under which it sank.

These two last-mentioned facts are proofs of the law which exempts from syphilis children one only of whose parents is suffering from that disease, and dooms them, on the contrary, to undergo it when both parents are affected with it. But they indisputably establish, above all, this fact: that an individual affected with constitutional syphilis may beget a healthy child, provided that his influence has been corrected, in the act of fecundation, by that of a partner free from this diathesis.

The information conveyed by these examples still remains entirely to be utilized for the improvement of social sanitary science. What temperaments, what constitutions, and what races are best adapted to correct the syphilitic diathesis in this respect? By what selections may marriages be effected in which the vitiated humours of the father may be neutralized by the physiological preponderance of the mother, and *vice versâ?* Is there any relation, amongst the children to be born of such unions, between the sex of those who shall be exempt and that of the particular parent who is so?

Great questions, which we have already weighed, and which we do not despair of being enabled to resume some day, if more numerous facts should lead us to any positive solutions.

[1] 'Simon, 'Journ. des Connaiss. Médic.-Chirur.,' 1835, p. 257.
[2] Ibid.

Section B.

ACQUIRED SYPHILIS.

There is no channel, no part of the body, and no manner in which a new-born infant may not, after leaving the womb, contract syphilis. The delicacy of its cutaneous system, its absolute inability to resist culpable manœuvres, and the action of special circumstances, such as parturition and lactation, would expose it to infection even more than the adult, if the absence of coitus at this age —at least voluntary and active—did not always incline the fatal balance on the side of the latter. We have, then, first to study the special syphilogenetic conditions which attend upon the infant at its birth, then those to which it is subjected in common with persons at a more advanced age. Hence arises a natural division of the subject into three chapters; viz., I. Infection during labour; II. Infection by lactation; III. Infection from accidental causes.

I. *Infection during Labour.*

This mode of infection has been observed by writers on syphilis from very opposite points of view. While Girtanner admits it as the sole agent of contamination in new-born infants, and Nisbett thinks it probable enough that syphilis, at that age, is due to no other cause, Bosquillon, on the contrary, refuses to believe in it. The generality of writers on syphilis have adopted a mean between these two opinions, and the facts at their disposal justify them by demonstrating the reality, but at the same time infrequency—greater even than it is generally described to be—of this mode of communication.

To convince ourselves that this is not the only mode of communication we need only take into consideration two facts. The first is, that the number of women who have inoculable matter[1] in the vulva at the time of delivery is much smaller than that of the new-born infants affected with syphilis. The second is, that children

[1] No allusion is here meant to the blenorrhagic affections which so frequently exist at the time of delivery, and are transmitted, sometimes to the genital organs, more frequently to the conjunctiva of the child.

sometimes present, at birth, well-marked symptoms of constitutional syphilis. But how could these exist if they could have been contracted only during the act of parturition?

Far from this, it would, I think, be more difficult to furnish conclusive examples of the reality of infection during labour. Bertin, who advocates it strongly, gives only the following reasons for his belief:

"When a child, born of a healthy father and of a mother infected only a few days before delivery, presents symptoms of syphilis some days after birth, while the mother is attacked by gonorrhœa and chancres, is there not a strong presumption that the infection of the new-born child occurred during labour?

"Is this presumption not changed into certainty when these symptoms are such as are termed primary?

"How, in fact, however rapidly the process of parturition may be completed, could the face and body of the child come into contact, with impunity, with the chancres and ulcers which infect the organs of generation of the mother?"[1]

Here are reasons enough, but not a single fact. I have sought for facts everywhere, but have not found any which are perfectly authentic. Whenever I have met with a notice of the appearance of a chancre in a new-born infant, I have been able, from the long interval after delivery, the testified healthy condition of the genital organs of the mother, or the discovery of an accidental contact with another individual having the disease, to convince myself that it was not contracted during the passage of the child through the external organs. Thus, without at all denying the possibility of the thing, but being rather convinced of its probability, I cannot give it so prominent a position amongst the causes of syphilitic poisoning in new-born infants; agreeing rather with Ricord, who says, "It is, without doubt, rare, but not impossible."[2]

If we reflect upon the multifarious conditions which must concur for the production of such a contagion, we shall cease to be surprised that instances of it are so rare. On the part of the mother it would require a chancre in the process of development, contracted from eight to thirty days, or thereabouts, before delivery; against which the body of the child must rub violently enough to absorb its secretion, but not so violently as to produce a hæmorrhage from

[1] Bertin, op. citat., p. 21.

[2] 'Lettres sur la Syphilis,' p. 104.

the surface of the ulcer which would dilute its secretion and render it innocuous. On the part of the child, it would require either an abrasion of the skin, or repeated friction, with long-continued delay of the part to be contaminated in the external organs, with the absence of the *liquor amnii*, and with the removal of the caseous matter, which has justly been regarded by Bosquillon and Jahn as the strongest preservative against the effects of the poison.

But, far from this being the case, who does not know with what rapidity and amidst what abundant lubrication the child is usually expelled from the womb? Are these the ordinary conditions of an infecting coitus? Are not all the prophylactic measures successfully employed by libertines—inunction of the member endangered with some fatty substance, prompt perpetration of the act itself, and careful ablution after its completion—faithfully repeated, on the contrary, by nature or by the commonest hygienic precautions?

It sometimes happens that in the same woman the ordinary contagion is possible, but does not occur; that the same vagina, in which there is a chancre, communicates it to a finger introduced for the purpose of exploration, while it is traversed with impunity by the child born shortly after. I find the first notice of this fact in 'Antonius Gallus' who, "testatur se obstetricem novisse quæ, dum mulieris inquinatæ partum exciperet, hoc morbo correpta fuit, nullâ tamen fœtui noxâ communicatâ." This example is as old as it is authentic, dating from 1540.

The following perfectly similar one occurred under my own observation:

Madame Le B—, a clever and experienced midwife, of Lyons, delivered a woman recently infected. A few days afterwards she observed a chancre develop itself on the radial side of the index finger, near the nail, in the situation of a slight excoriation which she had had for some days. In spite of the efforts of several surgeons, or perhaps because there were *several*, the ulcer spread and put on a phagedenic character. After four months of ineffectual treatment, during which no constitutional symptoms supervened, she recovered under the influence of country air and frequently repeated dressing with fresh cream.

The child was born healthy and continued to be so.

In cases of this kind it might be objected that if the fœtus has not contracted anything it is because, being born of an infected mother, it was itself already infected before birth; and, consequently, could not contract a second time the disease with which it was already affected. But even if the child were infected before birth

this would not prevent its contracting a primary sore during labour if the material conditions were favorable; for we constantly see individuals syphilitic in the highest degree contract primary sores if they expose themselves to the danger of connexion with a female capable of communicating the disease.

II. *Infection by Lactation.*

In this case the transmission is effected, or has been believed to be effected, in two distinct ways: either by a morbid lesion of which the nurse is the subject, or by the milk which the child receives from her.

A. *By a morbid lesion in the nurse.*—Many children born healthy of healthy parents return from the nurse with symptoms of constitutional syphilis. When have they contracted it? Very certainly during lactation. From whom? From the woman who suckled them. Where did it begin in them? Most frequently about the mouth. What were the first symptoms? Generally superficial, ulcerating, mucous papulæ.

All writers agree as to the observation of these facts, but as soon as we cease to speak in general terms the problem becomes involved in many doubts. Some assert, with Ricord, that the nurse was the subject of a primary sore, and communicated one to the child. Others, adhering to the older opinions, believe that the disease is communicated in a secondary form. Each of these explanations, however, if proposed as a general and exclusive theory, has its difficulties, and I might almost say its impossibilities.

If we admit the primary sore as the sole cause of infection, we may, strictly speaking, by throwing doubts upon the morality of the nurse, her husband, and those about her—by supposing her to be diseased without knowing it, or to be the agent of a mediate contagion—by accusing the state of health of those who approach the child, its real or legal parents, or its foster-brothers or sisters—by arguing from the time which elapsed before we had an opportunity of examining all the persons suspected, we may, I say, render the question difficult or insoluble. You may thus succeed, in more than one particular case, in making it impossible to prove that the origin of the disease was not a primary sore. But will this triumph of obscurity, with which you rest content, be capable of dictating

its laws to the practical man who is daily witnessing the evident affiliation of symptoms, and can judge better than anyone else of the morality of his patients? I doubt it; and these are my reasons for the reserved position I feel bound to take up in the face of this seductive theory.

The indurated primary chancre, the certain and, according to Ricord, sole cause of constitutional infections, with all its indolent ganglionic accompaniments, is rare, extremely rare, in new-born children. Yet how large is the number of children who present well-marked symptoms of constitutional syphilis during lactation!

The class of women from which wet-nurses are recruited, offers but few examples of syphilis. I could quote certain villages and cantons in which venereal disease is unknown. A nursling arrives, and the plague at once breaks out! Perfect health of the population until then; from that moment syphilis attacking almost epidemically the nurse and her family, the husband, children of three or four years old, old women of sixty, and extending to two generations in each direction.[1] What incredible immorality, what unbridled sensuality must we not assume to exist in these families, if each of the victims must necessarily have contracted a primary chancre? And why have these habits of debauchery and their fearful consequences awaited, for their development, the arrival of the nursling? By what chance are they never seen in neighbouring families, in which no strange child is being suckled?

This will suffice, I think, to enable any man who brings sound reason to bear upon this question, properly to appreciate the doctrine of *a primary sore in all cases*. Of the opposite theory, that which seeks to explain the transmission only by the communicability of ordinary constitutional symptoms, I shall only remark that, in spite of the most careful observations, it has not been possible hitherto to prove clearly the inoculability and consequently the true contagious character of lesions of this kind, in the adult. The demonstration of this fact experimentally has still to be furnished.

It is, therefore, neither in the one nor in the other of these two explanations that we must look for the truth; it is between them. One striking fact will bring us into the right track. In the immense number of cases in which the disease has been communicated by the nurse to the child, it has very rarely happened that

[1] Numerous cases of this kind will be quoted in Part III.

the constitutional sore on the nipple of the former has been the result of syphilis contracted in the usual way, after the development of a primary chancre in her own person. It has almost always been the consequence of the contact of her breast with the mouth *of another child infected with hereditary syphilis.* The ulcer she has had there, and transmitted, was not, therefore, a secondary affection of the usual kind. By its origin it partook of the essential nature of congenital syphilis. Can we then be surprised if, with this peculiar mode of development, it should present other characters and properties than the phenomena of an ordinary syphilis of the same standing?

But the chief characteristic of congenital syphilis is, to give rise to symptomatic manifestations contagious in effect, though secondary in form.[1] It then becomes intelligible that a child suckled at a breast ulcerated previously by an infected nursling, encounters in this ulcer an adequate cause of infection, since this symptom was, properly speaking, nothing else *than congenital syphilis accidentally engrafted upon an adult.*

Certain observations give this interpretation a high degree of probability. We sometimes see the intermediate link suppressed, and the disease transmitted from one nursling to a later one, by means of the nipple which has remained exempt in the nurse, though serving as an agent of mediate contagion. Thus:

Bertin[2] took into the department for nurses the woman Cla—, six months pregnant, and one of her children, aged twenty-two months. The latter presented large, prominent pustules about the anus and on the buttocks.

This woman was married, and had had four very healthy children; neither she nor her husband had ever had any symptoms of venereal disease. The child which she brought into the hospital with her was three months old, healthy, and was being suckled by her, when she took another child to nurse, born of a woman infected with syphilis, and itself affected with ophthalmia and chancres about the mouth. Eight days afterwards her own child was attacked by chancres on the tongue and palate, and abscesses on each side of the neck. She then went into a hospital, and, although presenting no symptom of venereal disease, was, along with her child, subjected to anti-syphilitic treatment. This woman continued free from any syphilitic symptoms, but the child had, at the end of three months, an eruption of venereal pustules, the same for which it

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[1] A special chapter has been devoted to the demonstration of this theorem (*see* Part III), and the reader is requested to suspend his judgment on this passage until after the perusal of it.

[2] Op. citat., p. 149.

was treated, as was mentioned at the beginning of this notice, in the department for nurses.[1]

We here see one child infect another directly, as it were, and we can conceive that when the nurse, instead of being, as in this case, a passive instrument, herself undergoes the venereal poisoning, this passage of the *congenital virus* through her organism does not deprive it of the eminently contagious property which is its fatal appanage.

Whatever judgment may be formed concerning what is here brought forward as a mere hypothesis, it will not remain less certain on that account that the contact of the mouth of a nursling with the breast of a syphilitic nurse ought most carefully to be avoided, whatever may be the phase, the appearance, or the date of the syphilitic lesions existing thereon. For although the child may sometimes escape contagion; although we are not justified in saying with de Blegny[2] that "nurses cannot suckle children without communicating syphilis to them, when themselves affected with it;" and although the experience of Ricord,[3] Cullerier, and Nonat sufficiently prove how exaggerated such an assertion is, it is always better, in such matters, to be too much rather than too little on our guard; and I doubt very much whether any of the worthy experimenters whom I have just quoted would allow a child of their own to draw the breast of a woman, healthy herself, but who had, the moment before, given the breast to a child with symptoms of syphilis about the mouth, however indisputably secondary these might be.

The opportunities of contact with infectious pus are too numerous and active during the act of suction for it to be necessary that I should spend much time in pointing them out and showing their influence—moisture, warmth, vascular congestion, nervous erethism, delicate membranes easily torn, frequent excoriations, pressure, prolonged rubbing and dragging at every moment—in no part of the body, in no function, and for no organ do the mechanical and vital conditions favorable to contagion appear to me to exert an action so powerful. And if, with such frequent instances of infection in

[1] Several points of this case make it probable that the affection in both children was primary; but that would by no means shake the reality of the mediate transmission of which it offers an example.

[2] Op. citat., p. 194.

[3] 'Lettres sur la Syphilis,' 1851, p. 101.

nurslings as daily experience affords us, anything ought to surprise me, it is, in truth, that they are not much more frequent.

B. *By the milk.*—In attributing to nurses the disease contracted by their nurslings it is not always meant that the material cause of it is to be found at the time on their breasts. For the nurse, as for the mother, it has been admitted that they may, without presenting evident symptoms, become a cause of infection; the latter through the ovum, or the blood which she furnishes to the child; the former through the milk with which she nourishes it. It is in this way only, as we have already seen, that ancient authors understood the development of infantile syphilis; the same mode, although no longer as the exclusive one, has been advocated by many distinguished writers on syphilis during the last half century, as Bertin, Mahon, Bell, Astruc, Doublet, &c., and more recently Lane and Parker.

Swediaur, however, and afterwards Nisbett, had already denied this mode of communication. But it was Hunter especially who strongly opposed its admission into the list of infecting causes; and the arguments since used for this end are but a reproduction of those urged by him.

According to Hunter, neither the blood, nor any of the secretions formed from it—the perspiration, the saliva, the urine, or the semen—can become vehicles of contagion. The milk being also a secretion must partake of this negative property. We shall at once be able to estimate the true value of this proof if we bear in mind that the logical consequences of such an opinion lead Hunter to contest the existence of hereditary syphilis. And indeed, "he is much inclined to doubt that a fœtus contained in the womb of a syphilitic mother can receive the infection." And as for the supposition that the semen can, in the act of fecundation, produce a syphilitic fœtus, "it is, in his opinion, a hypothesis without foundation."

When we consider that the only reason why such a man as Hunter treated as chimerical the commonest practical realities, was the impossibility of producing chancres by inoculation with the blood of a person affected with constitutional syphilis, we are seized with giddiness, as it were, and involuntarily ask ourselves—if reasoning can lead such a mind so far astray—what remains to us of certainty amongst all the demonstrated truths which we believe to be placed on the firmest basis?

I am wrong, however: Hunter has other evidence in support of his view. A little boy and a young woman swallowed milk containing, in the one case, a small quantity of pus from a primary chancre, in the other of gonorrhœal discharge. Neither of them suffered the least inconvenience. Therefore, he says, the milk of the nurse, which contains the same principles, and is elaborated in the same manner by the digestive organs of the nursling, ought to be equally harmless to it.

Here again Hunter has confounded the liquid vehicle *of the poison which produces a primary chancre* with the liquid vehicle *of the poison generalized in the economy*. That the former should not have produced a chancre when mixed with an immense proportion of fluid, and simply passing over a healthy mucous membrane, is by no means surprising: for these are the conditions most antagonistic to its action. But to conclude from the circumstance that a poison whose infecting power is entirely local has had no local effect, that another poison, whose general influence on the economy is demonstrated by the cases of syphilis transmitted from the mother to the fœtus, will have no effect when the organism receives it during several months as the sole element of nutrition, is, with all respect for Hunter and his disciples, to forget in a singular manner, or to infringe the laws of analogy and the rules of logic.

Putting aside these vain speculations, the whole question is comprised in this. The blood transmits syphilis from the mother to the fœtus. The semen, a product of secretion, transmits syphilis from the father to the fœtus. This privilege, of which no other secreted matter partakes, is easily and rationally explained by the nature of the part which these two liquids play, the one in the formation, the other in the nutrition of the new being. Does the milk, a secretion whose importance absorbs, during its continuance, all the other functions of the woman—does the milk, exclusive element of the very active nutrition of the new-born infant during the first months,—does the milk which its almost inactive digestive organs elaborate to so small a degree that any other aliment requiring more action of them is not absorbed, and compromises life instead of sustaining it,— does the milk which according to the quaint expression of our Ambrose Paré, *is nothing else than blanched blood*, possess the same infecting properties? May it not, at least, possess them to a certain extent? I confess that this problem is, in my opinion,

far from being solved, and that if probabilities alone could influence me it would not be in favour of Hunter's view.

The question, unfortunately, does not appear to be easily susceptible of solution experimentally. If the milk be infected, she who secretes it cannot fail to be so too; and we are then always in a position to suspect that it is not by the milk but by the contact of a lesion on the breast with the mouth of the child that the communication of the disease to the latter has been effected. If we do not find any evident symptoms on the breast at the time of our examination, it will be difficult to prove that none had previously existed. And even if it were possible to prove their absence during the whole period of lactation, we might invoke against the advocates of communication by the milk the possibility of a mediate contagion, from an infected child to a healthy one, by the medium of a nurse remaining herself exempt; a fact which Bertin's case, quoted above, places beyond all doubt. I shall not stop here to discuss certain observations of Whitehead, Starck, Cooke, and Bertin, intended by them to support this theory, but which do not, and could not do more than establish presumptions in favour of it. Analogy offers us no better resources. Thus Fossati [1] asserts very positively that he has furnished legal proof that the bite of a sucking puppy, born of and suckled by a bitch in whom hydrophobia did not appear until after pupping, communicated the disease to an unfortunate man, who died of hydrophobia in 1844, in the *clinique* of the University of Pavia. But in spite of his affirmation, can we be sure that the mother had not rather communicated the disease to her pup by biting or licking it than by suckling it?

The partisans of Hunter are evidently in a better position when they appeal to experience, for they are satisfied with collating negative facts. But we know very well that, in relation to virulent affections, it is possible—contagion by accidental transmission never being obligatory—to multiply, almost at will, the cases of non-contagion. And yet they do not appear, hitherto at least, to have drawn from their favorable position the advantage which it afforded them; for there is not one of their observations to which, besides its insufficiency as a proof (the fatal attribute common to all negative facts), we cannot impute some omission, which strikes us the more because it, at least, might have been avoided. Thus

[1] 'Mémoire sur la Rage.'

the last in date, A. Dugès, has written his inaugural thesis[1] under the title: 'On the Harmlessness of the Milk of Nurses affected with Syphilis for the Children which they suckle.' Yet the only personal observation which he brings forward to justify a dictum so absolute is:

A woman named C. E. was delivered, on the 6th of July, 1851, of a healthy female child. She herself had nothing but some vegetations.

A woman named M. M., who presented a well-marked tubercular eruption, entered the same hospital (de l'Ourcine) in the first week of August following. Having been at once placed under treatment with the proto-iodide of mercury, she suckled the child of the woman C. E., the latter not having any milk. The child remained under observation for five months, and with the exception of great weakness, did not present any traces of disease. The milk of its nurse rapidly restored its health, which had been much compromised by the milk of its mother. It died of convulsions when five months old.

According to Dugès, this observation "proves clearly the harmlessness of the milk of syphilitic nurses." In my opinion it proves something more, which the writer does not appear to have suspected: the power of proto-iodide of mercury to cure constitutional syphilis! As the child only began to take the milk of this nurse from the time when she was subjected to specific treatment, this milk could not long remain fitted to communicate the contagion; but, on the other hand, it conveyed the remedy during a period of five months.

Cullerier,[2] on his part, has sought to support, by the results of his experience, the doctrine which denies the transmissibility of syphilis to the child, either by the milk which it sucks or by the lesions of the breast of the nurse coming in contact with its mouth.

In 1850 he read, at the Academy of Medicine, five cases of infected nurses, whose nurslings had continued healthy. The constitutional symptoms in the nurses were well marked. In the first they consisted in cephalalgia, alopecia, roseola, and ulceration of the tonsils; in the second, in mucous patches in the vulva and throat; in the third, in roseola and patches on the genital organs and at the commissures of the mouth; in the fourth, in lichen on various parts of the body, and ulceration at the base of one nipple; in the fifth, in numerous pustules of ecthyma, situated chiefly on the breasts.

[1] 'Thèses de Paris,' Feb. 28, 1852, p. 14.

[2] 'Gaz. Méd. de Paris,' 20e année, p. 892.

But all these observations appear to have been made on syphilitic nurses suckling each *her own child.* These children had, therefore, already been subjected, *in utero,* to causes of syphilitic poisoning much more powerful than the action of the milk. And if they had resisted these, how can we be surprised that they should resist a much less active influence? On the strength of this first experiment made upon them by nature, it may be affirmed that they were of the number of those individuals who are not affected by constitutional poisoning—of those, precisely, who furnish the negative facts of which I have just spoken.

We see how much precision is required in the narration of these cases before the discussion of them can become really useful to science. What, then, is to be said of those to which Ricord[1] alludes only with the following words: "Nurses who presented well-marked secondary symptoms have been able to suckle children sent to me as affected with syphilis, but who had nothing more than simple eruptions of eczema, impetigo, or the various forms of porrigo; and never, under my observation, have these children been infected." The details indispensable for conviction evidently did not form part of the sketch which this ingenious writer on syphilis had traced out for his work. Their omission also justifies reserve on our part, and we shall defer the examination of them until they are reported with all the necessary details.

Venot has, in his turn, undertaken this pooof.[2] But, for two of his four observations, the harmlessness of lactation is explained very naturally, without involving, as a necessary consequence, the non-transmissibility of symptoms to the child in this way. In fact, it is specified, in the first, that the mother, who was at the same time the nurse, had sore throat with gray aphthæ, lenticular spots on the abdomen, thigh, and neck, a pemphigoid eruption on the genitals, and periostitis of the tibia. In the third the mother, also nursing the child, had advanced caries of the palate, with gummy tumours in the course of the extensor tendons of both knees. Is it then surprising that, as there was no syphilitic affection of the breasts, the child should have escaped contagion? Venot's second observation refers only to the transmission of a primary chancre. The fourth is still more foreign to the question

[1] 'Lettres sur la Syphilis,' p. 101.

[2] 'Journal de Médecine de Bordeaux,' March, 1852, p. 148.

actually in discussion, for it refers only to a syphilitic child which failed to infect the nurse, a subject which will be examined separately in the third part of this work.

A thought strikes me, however, and may be applied to observations of Cullerier as well as to those of Ricord or Nonat, to whom he simply alludes by name. It is that these shrewd practitioners did not, doubtless, confine themselves strictly to the experimental confirmation of the fact. I know them too well to suppose, for an instant, that, having before their eyes and visiting every morning a woman decidedly the subject of a secondary diathesis, they should have delayed a single day to administer specific remedies in the proper quantity. What becomes, then, with this course of action —otherwise eminently prudent and the only conscientious one— of the proof of the harmlessness of the poison, from the moment it is sought, while observing it, to neutralize it by administering its antidote?

I feel instinctively, better perhaps than I shall succeed in expressing it, that something more is wanting in all these results to raise them to the rank of proofs. Both the advocates and opponents of transmission by the milk, commit, as it appears to me, a common error in reference to this question: that of applying the same standard of facts essentially different. Are we sufficiently cognizant of the possible effects of this impure food on the new-born child to be justified in affirming that it has produced no effect, solely because we do not see it followed by any of the phenomena of constitutional syphilis acquired by the usual mode of contagion? May not this entirely special influence have its own peculiar characteristics, modality, and period of development? When, for instance, we see syphilis derived from the father not manifesting itself until at least nine months after birth, but then appearing in the most serious forms, why should not the milder and more gradual influence of lactation reveal itself by slighter and more tardy indications, by certain forms of scrofulous affection, by complications of intercurrent diseases, rather than by distinct and unequivocal symptoms? Is it absolutely necessary that there should be present, in a morbid state, the train of *copper-coloured* spots, periosteal pains, or *opaline* patches, before we can venture to affirm that syphilis may have had some part in its production? Lastly, may not the milk of an infected nurse be capable of rendering syphilis in the child she is suckling less curable by specific

remedies? This is the opinion of Blundell.[1] He spoke, in his lectures, of a child born syphilitic of a syphilitic mother, who suckled it. Dr. Lowder removed the symptoms in this child on two successive occasions by mercurial treatment, but when they appeared for the third time he concluded that the disease was maintained by the milk of the mother. The child was, therefore, weaned, and was cured without difficulty.

I do not know whether these doubts will develop in the mind of some favorably placed observer the desire of filling up by clinical researches the gap to which I allude. But for the present they will suffice, at least, to justify me in saying that, before we can admit the harmlessness of the milk of a syphilitic nurse for her nursling, more is certainly required than to have seen the latter exempt from the ordinary symptoms of syphilis for five months, or during the time necessary for the nurse to go through a course of antisyphilitic treatment in a hospital, as was specified in the observations mentioned above.

For my own part I neither admit nor reject anything absolutely concerning the point at issue. If reason induces me to admit the reality of this influence, I must confess that experience has not yet lent sufficient support to its suggestions. I wait, therefore; merely appealing to impartiality in the first place and afterwards to the zeal of future investigators.

III. *Infection from Accidental Causes.*

I have already said that almost all the accidental causes which threaten the adult may affect children at the breast. But it must not be imagined that this form of syphilis is nearly as common in them as that which is hereditary. If, of late, we have seen observations of primary chancres transmitted to children become more common, it is because a theory interested in explaining by this mode of origin all the cases of venereal affection communicated during lactation has taken advantage of every opportunity of multiplying instances. Thanks are doubtless due to it for having cleared up this side of the question by the relation of cases to which older writers had paid too little attention. But, all authentic as they are, they none the less constitute a great minority in com-

[1] 'Annales des Mal. de la Peau, et de la Syphilis,' 1844, t. i, p. 318.

parison with the cases of venereal disease transmitted to the new-born infant in a different manner.

The mechanism of the propagation itself being always the same, as the result of contact, it is only necessary here to seek to determine the circumstances under which it is most frequently effected. This study, which is the only interesting one, especially recommends itself by the clear light it is capable of throwing on the prophylaxis of affections of this nature. Thus new-born infants may be infected:

A. *By a primary sore in the nurse.*—This is no longer the same thing as transmission by means of lactation, since the nurse does not communicate the constitutional malady, but only a local lesion which is its possible cause. Without being so frequent as it has been said to be, this cause is pretty often in operation, either without the knowledge of the person affected, or with her knowledge and in spite of the precautions which she takes. In the first case, if secondary phenomena afterwards show themselves on her breasts, she believes that her nursling has really infected her; in the second, she too often endeavours to persuade others of it. Her situation, in this respect, is sometimes of a mixed character. Thus:

Ricord[1] states that a woman under the care of Cullerier at l'Ourcine, who had a primary chancre in the genital organs, pressed and pulled her nipple with her fingers, after having touched the sore in the vulva with them. She thereby produced a chancre on the nipple, and the child she was suckling contracted one in the mouth.

Another nurse, mentioned by Ricord, had a chancre on the nipple, which had been given her by a person affected with a primary chancre on the lip, the latter thinking to do her service by emptying her breast by suction.

The nurse, in these cases, might be ignorant of the danger to which the child was exposed in suckling; for not having believed her breasts to have been exposed to contagion, she might easily continue to deceive herself concerning the nature of the lesions upon them, and to regard them as the chaps which so often result from suckling. If this mistake constitute an excuse for the woman, it does but enhance the danger to the child, on account of the conviction it inspires of the harmlessness of close and prolonged contact with the diseased organ.

Under other conditions, the nurse knows perfectly well what is

[1] 'Lettres sur la Syphilis,' p. 103.

the nature of her disease. Such was the case with one mentioned by Ricord, on the inner surface of each of whose breasts there was found an indurated chancre contracted *ab antero-superiore venere,* and which she had communicated to the child during lactation.

The excoriations of the nipple so common during lactation greatly facilitate the development of primary chancres at this spot. They sometimes receive the contagion from the mouth of one child to transmit it to that of another. But however this may be, it is difficult to understand how, when the apex of the mamma is the site of chancre, the lips which are applied to it and press it at every moment of the day can escape the influence of a poison so eminently inoculable, and which they, so to speak, squeeze out from it.

Contagion appears to me, under such circumstances, to be almost inevitable; and it is truly fortunate that it is not met with more frequently.

Some women, when they have recently been delivered, seek to render their position a source of profit; they wish to become wet-nurses. To encourage the secretion of milk they offer the breast to the first child they can meet with. It will easily be understood that this habit, sometimes compulsory, is a very common source of contagion; and the more so because parents who would examine, or cause to be examined, most carefully a nurse to whom they were about to intrust a child for a long period, take no precautions when they know that it will remain with her for a few hours only.

B. *By a stranger the subject of a primary chancre.*—Here again the communication occurs, sometimes inadvertently, sometimes with a full knowledge of the cause, in consequence of culpable manœuvres. The first case is frequently the accidental consequence of the habit of kissing children repeatedly and passionately, of letting them lie in the same bed, and of washing them with the saliva, the possible vehicle of a contagious principle. Let us quote a case of each kind.

I treated, in concert with my worthy colleague, D'A—, a lady who had a primary chancre on the lower lip, communicated to her by her husband in I know not what manner. The mother of a child of four months old, which she idolised, she felt it as a great privation to defer, until the time when her sore should be healed, the kisses with which she had previously covered it at every

moment. Did she one day lose patience? I do not know; but we saw an accidental scratch at the labial commissure of the poor child gradually assume such a character that the deep and prolonged application of nitrate of silver to this ulcer was thought necessary. This preventive treatment was successful.

Of the second mode of communication Trousseau gives us a good instance.

This worthy professor saw [1] a little girl of twelve months old who contracted a deep chancre on the buttock. He learnt that the mother took the child into the same bed, and, as the cold was extreme, pressed it closely to her to warm it. This woman had primary sores in the vulva.

As regards the washing with saliva I could not choose a more striking illustration of it than the following, borrowed from Bertin.[2]

A little girl, four months old, healthy herself, as were also her father and mother, became the subject of a chancre on the upper and inner surface of the left labium. It cicatrised at the end of a month; but a bubo formed in the groin on the same side, which suppurated. Her legs and thighs soon became covered with pustules. It was discovered that an aunt of this child, affected with syphilis, tended and kissed it, sometimes gave it the breast to quiet it, and lastly that she washed its genital organs with water which she had previously put into her mouth to warm it.

Ricord[3] alludes to cases observed by himself in which Jewish children received the infection, and presented true chancres on the prepuce, which had been divided in circumcision and then sucked, to arrest hæmorrhage, by an operator in whose mouth he ascertained the existence of primary lesions. Here the saliva had very certainly contained, and transmitted to the innocent subjects the germs of the malady.[4]

Some writers are of opinion that syphilis may be communicated to a child without actual contact with a diseased part. Thus a

[1] 'Gaz. des Hôp.,' 1846, p. 571.

[2] Op. citat., p. 77.

[3] 'Lettres sur la Syphilis,' p. 98.

[4] It is sometimes necessary to carry our investigations very far for the purpose of discovering the starting point. Richet mentions a little girl affected with primary chancres about the anus, born of healthy parents and suckled by a healthy nurse, concerning the origin of which the medical attendants were much puzzled, until it was ascertained that a clerk of the house, himself infected, had been in the habit of holding this child on his bare hands, which were frequently soiled, and which he had not always taken the precaution to wash.

person affected with syphilis would infect a child by carrying it in his arms, lying with it, or impregnating it with that *aura venerea* which they suppose to be exhaled from his whole person. Need I say that ill-observed facts alone have been able for a moment to gain credit for this hypothesis.

As regards the criminal attempts which so frequently furnish occupants for the benches of the courts of assize, we need not occupy ourselves with them at the present moment. It is enough to remark that as their real authors have a pressing interest in concealing themselves, it is frequently and unjustly upon the nurses or upon the father and mother that suspicion is thrown. It must also be remembered that the attempts, which are made chiefly upon female children, being usually accompanied by excoriations, the inoculation of the contagious matter finds in them a condition favorable to the development of its special action.

c. *By a person affected directly or indirectly with congenital syphilis.*—This refers to the foster-brothers or sisters, the husband of the nurse, and all his family. I have already stated, and hope to prove it in Part III, that the lesions of congenital syphilis differ from those of ordinary syphilis by an infinitely greater power of contagion. And what is at the same time remarkable and deleterious in them is, that they transmit this same property to the person who receives the disease through them. Thus, that of two children, one the subject of hereditary syphilis, the other healthy, the former should infect the latter by means of their daily intercourse, is not difficult to understand after what has been said of the higher degree of contagiosity peculiar to syphilitic lesions of this class. We have already quoted instances in which the first child has poisoned the nurse, who has then transmitted to the second the disease communicated to herself. But the course of things is frequently a different one. From the *tainted* suckling the malady passes to the nurse, then to her husband, then to the adult members of the family, to return lastly to the other strange children domiciled with them either at the breast or after weaning. The annals of science abound in observations of this kind, which will be mentioned in detail in the course of the present work. And we should be overwhelmed with surprise on seeing the rapidity with which lesions, *though secondary in appearance*, spread from one individual to another, if we had not the explanation afforded by

this assumed anomaly in the *congenital nature* of the lesion which has been the primary source of this series of successive contaminations.

The fact appears to me so established that, converting the consequence into a premise, I would willingly employ it as a means, or at least as one of the elements of diagnosis. Thus, if I saw a woman presenting symptoms of constitutional syphilis transmit them to her husband, the suspicion would at once arise in my mind *that they were of a congenital character*, that they resulted in her from relations with a new-born child affected with hereditary syphilis. And I should consider the husband, in his turn, as being more particularly capable of communicating by contact the lesions he had contracted in this manner, however secondary their appearance might be in him.

D. *By vaccination.*—The vaccine pustules developed upon a syphilitic child have often been and still are accused of transmitting venereal disease to another child vaccinated with the pus which they contain. Ricord has nullified these apprehensions by demonstrating, in each of the cases brought forward as examples of such an accident, that an error had arisen in one or other of the two following manners:

Either the child which has been vaccinated has not really had a genuine syphilitic affection, but one of those mild eruptions so common at an early age, and which so often spread over a great part of the body under the influence of the febrile condition induced by vaccination.

Or the child from which the lymph was taken presented, instead of a true vaccine pustule, a chancrous pustule, initial lesion of the primary syphilitic ulcer when it develops itself on the skin, and which presents, in fact, characters very capable of causing it to be confounded with the vaccine pustule.

PART II.—DESCRIPTION.

The first consideration, in commencing this study, is to determine the order to be followed in tracing out a sketch into which so many various objects are to be introduced. But this is at the same time most difficult and most important. Here, still more than in the case of syphilis in adults, all the bases upon which to found a classification are necessarily weak at one point or another.

To give an isolated picture of *each kind of lesion,* pustule, exanthem, caries, ulcer, &c., would teach us indeed to recognise the various forms of the disease, but would leave us in ignorance of the manner in which they are connected with and succeed each other.

We might know how to distinguish the symptoms and yet fail to recognise the disease itself.

To examine the phenomena in *a given region of the body, or in a given system of organs,* would involve repetitions, and, consequently, impair the clearness of our view. It is true that the topographical consideration of them deserves special mention; but confined as it is by the whole circumstances to a small number of points, it could not, without danger for our description, usurp the place of a general principle of division.

Will it be desirable, then, to follow the disease *in its chronological evolution,* from its commencement to its termination? We could scarcely do this in reference to ordinary syphilis, and we should not, *à fortiori,* succeed in the case of the new-born child, in whom the affection runs as many different courses as it has different origins; in whom its first aggression may be either *an insignificant and circumscribed blush,* or a group of corroding ulcers; and where

it sometimes destroys the embryo in the first months of gestation, sometimes spares the child up to the moment of weaning.

Lastly, does the *greater frequency* of certain forms of the disease point out to us the order to be adopted in the description of them? It does not, for to follow this guide exclusively would be to advance almost at random, to sever the most natural connecting links, and to deprive ourselves of the aid which notions already acquired furnish for the acquisition of new ones:

The least imperfect order appears to me to consist in the *successive study of the different lesions;* and this is, therefore, the one which I have felt called upon to adopt, with two conditions:

I. To keep in view, in each article, the principal indications to the importance of which we have just alluded.

II. To trace out, after the description of the different lesions, a sketch of the progress of the disease in reference to its entirety.

CHAPTER I.

DETAILED AND DIAGNOSTIC INDICATION OF EACH LESION.

I.—*Primary Chancre.*

This lesion, said to be the necessary starting point of syphilis in the adult, or at the least its most common source, does not even find a place in the nomenclature of syphilis in new-born children. When they contract the disease by generation, a chancre is never the first manifestation of it. When, on the contrary, they contract it accidentally, after birth, whether from the nurse or from strangers, a chancre is, indeed, sometimes the agent of transmission and the first symptom in them. But then, apart from the difference of its most common situation, it resembles so exactly a chancre in the adult, and the history of this latter is now so perfectly known, that it would be altogether superfluous to devote a special description to it.

II.—*Buboes.*

Buboes are very rarely observed in children at the breast. This is a very important fact in an ætiological point of view, and I shall dilate upon its consequences further on. I confine myself, for the present, to the establishment of it. In the numerous observations which I have collated, I find scarcely any mention of ganglionic engorgement, and not a single instance of a bubo terminating in suppuration. Bertin, who wrote rather a long chapter on this subject, was forced to compose it almost entirely of theoretical views concerning the classification of buboes in general. But when he comes at last to specialise these abstract data, he is compelled to write that "buboes, tumours, and engorgements of lymphatic glands

are far from being as frequent in new-born children during lactation as in adults." Then, after having rejected, with the good sense which he is known to possess, the vain hypotheses of writers in explanation of this difference, he gives the one which appears most plausible to him. "It has constantly been observed," he says, "that buboes follow primary ulcers much more frequently than secondary ones; but it is the latter which manifest themselves most frequently in the children we are called upon to treat, because the generality of them are affected with constitutional syphilis contracted *in utero*."

This explanation (in my opinion the only admissible one) has the more force when coming from Bertin, as he believed, with other writers on syphilis of his day, in the existence of *constitutional venereal buboes*, the indirect products and significant indications of a confirmed syphilitic diathesis, but which are now regarded as dependent upon scrofulous conditions. But if a specialist like Bertin, then, who arbitrarily arranged cases of this kind of engorgement under the head of venereal affections, still found the number of syphilitic buboes in new-born children so small, there was little probability that his opinion should be weakened by later experience; and I see, in fact, that even in our days it is he who furnishes precedents on this point.

Glandular enlargements are more common beneath the jaws and in the neck than anywhere else, because the lesions resulting from impure contact which produce them are generally developed in the mouth. Is, then, the history of congenital syphilis entirely wanting in examples of a suppurating bubo in the inguinal region? Certainly not, for Bertin himself quotes the case[1] of a little girl five months old. But the details of this case render it extremely probable that the bubo was not due to the influence of a constitutional affection, but that, on the contrary, it had followed the same ætiological laws as those which accompany primary chancres in the adult. This child had, in fact, had a chancre for a month on the upper and inner surface of the labium on the same side as the bubo: and inquiries made in the family showed the source of infection to have been an aunt affected with syphilis, who was brought into near and frequent approximation to her unfortunate niece.

[1] Op. citat., p. 77.

III.—*Exanthemata.*

Redness of the skin is often observed to be the forerunner of some other deeper change, some pustule, mucous tubercle, &c. But the only rash which I have seen in children, characterised solely and during its whole continuance by redness of the integuments, is roseola. It is distinguished by patches of a bright rose colour, circumscribed, irregularly rounded, of various sizes (most frequently about as large as one of the nails,) appearing by preference on the belly, lower part of the chest, neck, and inner surface of the extremities.

This eruption is generally one of the first manifestations of syphilis; but it is soon accompanied by other symptoms, and especially by ulcerations about the mouth and anus.

I have seen flea-bites, in spite of the central ecchymosis which distinguishes them, taken for patches of roseola. With respect to measles or scarlatina, the febrile excitement which precedes and accompanies them, and which is entirely wanting in the case of syphilis, is a sufficient distinction. Simple non-syphilitic roseola might more easily lead to a mistake. Cazenave[1] asserts that this eruption may be distinguished by its shorter duration, and by its maintaining the same colour and the same degree until its termination. These are precise indices, but altogether insufficient for diagnosis, at least for a diagnosis available in practice. For it is not after having taken time to follow its progress, it is immediately and at once, that the nature of the disease must be decided on; because it is at once, in cases of syphilis, that it must be treated. But the coppery tint and the imperfect disappearance of the redness under the pressure of the finger, may enable an experienced practitioner to recognise syphilitic roseola; the best and least vague sign, however, and one which is within the reach of all, is, as I have said, the coexistence in the same subject of syphilitic symptoms differing from it.

Intertrigo and erythema appear in situations and forms, and from the influence of causes, which allow of their being easily distinguished from a venereal exanthem.

[1] 'Traité des Syphilid.,' p. 554.

But can syphilis take on, in a child, the form of erysipelas? If I put this question, it is because I have already found it proposed by two writers of note. Bertin,[1] without asserting the venereal character of this symptom, remarks "that there frequently shows itself on the bodies of children born of infected parents, a partial or general erysipelatous redness, which cannot be attributed to want of cleanliness, or to any external cause of irritation, and which resists all lotions, baths, and ablutions. This redness," he adds, "is observed to precede venereal symptoms about the mouth, and sometimes to outlast them for a considerable time."

Deutsch, of Nicolaï,[2] says "that the various syphilitic affections of new-born children may be accompanied by non-eruptive affections of the skin, of a distinctly erysipelatous redness and tension, chiefly about the loins, buttocks, and genital organs; this pseudo-erysipelas sometimes appears on the soles of the feet."

As for this latter situation it is highly probable that Deutsch mistook for erysipelas or traces of erysipelas, the skin which had been separated by dried-up bullæ. But, for the other parts of the description, this agreement between two writers, who are no doubt strangers to each other, cannot fail to be striking. All that it appears to me justifiable to conclude therefrom is, that erysipelas appearing in a child the subject of venereal infection ought to be viewed with some suspicion, and that it might very well not indicate any other treatment than the continuation of the specific one.

IV.—*Mucous Patches.*

This symptom, as it is generally one of the earliest, is also incomparably the most frequent in new-born children, as well as that which attacks the most extensive surfaces and affects the most varied situations. The anatomical peculiarities proper to early age easily explain this. We know, in fact, that in the adult flat pustules occupy by preference either the mucous membranes, or, in the skin, those parts where it is *thin, moist, and exposed to constant friction*. But, of these three conditions, the first is the essential characteristic of the cutaneous system at birth. The second neces-

[1] 'Traité de la Mal. vénér. chez les n.-nés,' p. 120.

[2] 'Journ. für Kinderkrankheiten,' March and April, 1851.

sarily obtains, for the neighbourhood of the mouth and nostrils, from contact with the milk, the saliva, the tears, and the nasal mucus, fluids which, at that age, may fairly be termed *uncontrollable;* for the anus and genital organs, from the constantly repeated excretions. In respect to the third, it will be remembered that the large quantity of fat produces folds in the skin, and consequently more frequent friction than at any other period of life.

But, to understand fully the great frequency of mucous patches in children, we must be able to recognise this form of affection, despite the varied appearances which a difference of period, of situation, of sanitary measures, and of treatment, &c., impart to it; we must bear in mind that, in new-born children, it rarely remains dry; that, especially when it affects the mucous membranes, it tends so rapidly to ulceration that the medical attendant often sees it only in this state; that want of attention and cleanliness may cause it to multiply to such an extent as to form, by the successive addition of superposed patches, true tumours; that sometimes, as Ricord has established, it developes itself as the sequel and on the site of a primary chancre; and that, in the mouth, the milk, or food taken too hot, give it a concrete white covering which frequently, to an inattentive observer, masks its true character.

The affection here alluded to presents itself, and must be studied, separately, as occurring on the skin or on the mucous membranes.

A. *On the skin.*—It appears in the form of patches or elevations, very slightly prominent, of the size of a centime, with a rounded or rather curved border. Their surface has the white colour imparted to the skin by the prolonged application of a poultice, or that which a layer of collodion offers at the moment when it is beginning to dry. This tint is not uniformly distributed, however. We see it more strongly marked at the central points of the patches than towards their borders. Cracks and superficial erosions appear upon the morbid surface when it has existed for some time; and a serous liquid of a peculiar odour escapes. Left to themselves these solutions of continuity may increase in extent, but they do not become deeper.

It is to be remarked that the more nearly the part affected approaches the texture of the mucous membranes, and the larger and more confluent the patches are, so much more strongly is the

white colour marked, so much more is the ulceration rapid and the discharge abundant.

These patches most frequently appear on the scrotum, the vulva, in the genito-crural fold, about the umbilicus, the axilla, the commissures of the lips (where Nicolas Massa has already pointed them out as a sign of syphilis), and the anus; less frequently at the alæ of the nose, between the chin and lower lip, behind the ears, in the external meatus of the ear, in the spaces which separate the toes, and on the hairy scalp. In this last situation, where it appears only in new-born children and in adults who are bald, the mucous patch remains dry longer than elsewhere; and it is there sometimes covered with a true crust. Care must be taken not to confound it with ecthyma, the expression of a more advanced syphilitic diathesis.

Mucous patches on the skin coexist most frequently with a roseolous and especially with a papular eruption. Mucous patches and papulæ even appear to be the common manifestation of an identical cause, *i. e.*, of a similar degree and similar period of constitutional infection. Thus, as the child gets older the papular form will predominate. Under the opposite conditions, mucous patches will predominate, and will be found in the situations generally seen to be occupied by papulæ, as the belly, the buttocks, the nape of the neck, &c. There is nothing surprising in this, for there exists more than a mere analogy between the two lesions. If the cutaneous secretion which covers the papulæ meet with moisture which macerates it, the papula, in developing itself, takes on the form of a mucous patch; thus we see that it is a mere question of situation.

The diagnosis of mucous patches is easy for one who has been accustomed to see them, but the most detailed description could only give a very imperfect idea of them. Without neglecting to consult that which we have endeavoured to trace from nature, the practitioner must bear in mind that experience and not reading, the suggestions of his good sense and not of his imagination, are indispensable for this diagnosis, which is an object of primary importance in the study of syphilis, and especially of infantile syphilis.

Slight cracks often affect the labial commissures; in suspected children these must be examined carefully, and if they continue in spite of emollient applications, if their surface assume a white

colour, and above all if they increase in extent, they are probably mucous patches. The same remark applies to intertrigo, except that powdered iris or lycopodium may be substituted with advantage for emollients in the treatment adopted as a test of its nature. Behind the ears and on the hairy scalp *crusta lactea* may simulate the syphilitic change now in question. But these crusts are yellow, thick, confluent, and of irregular shape. When detached by means of poultices they disclose only a simple inflamed surface; all characteristics very different from those of the mucous patch.

B. *On the mucous membranes.*—The venereal patches, as was remarked already, are here always much less prominent and ulcerate much more rapidly. On examining them at the outset, we observe a simple white elevation, the irregularly rounded shape of which gives it its chief syphilitic stamp. But points of excavation soon show themselves at the centre of this surface; and after a very short time only a single ulcer is to be observed.

Whether they affect the skin or mucous membranes, syphilitic mucous patches have, in new-born children, an unmistakeable predilection for the head (especially the face and mouth) and the organs of generation. Lamauve, who has established the fact, explains it in reference to the head "because it is the part which nature forms first, and for the development of which the greatest efforts are required;" in reference to the organs of generation, "because they have a special affinity for the morbific virus." Less easy in our day to be satisfied with mere words, we place the reasons of this frequency in the structure and in the functions of the parts. In the structure, because it is there that the orifices of the mucous cavities converge, orifices around which nature has accumulated vessels and nerves of different kinds, hair and sebaceous follicles, and a fine and irritable integument, and, consequently, the most active predisposing causes of disease. In the functions, because, independently of the sympathies which are called into play about the neighbourhood of these orifices, and of the different kinds of sensibility with which they are provided, their participation in the acts of digestion, respiration, crying, prehension, suction, and mastication, the effect of cold and the excretions, constantly bring influences to bear upon them which determine the outbreak of a diathesis, in those situations rather than in others.

Venereal patches on the genito-urinary mucous membranes in

either sex present nothing very special here. In the new-born infant, in whom the function of these organs slumbers, in whom they scarcely ever serve as an inlet for syphilis, constitutional manifestations are infinitely less frequent than in the buccal cavity. Further, as no other analogous disease can complicate or simulate them, their topographical description offers little of interest. Let us not forget, however, that if these mucous membranes escape or resist the invasion of flat pustules, their cutaneous neighbourhood is, on the contrary, the most frequent and earliest seat of them in new-born infants.

In the mouth, on the contrary, the difficulty of this study vies, to a certain extent, with its importance. These specific ulcers attack every point, from the lips to the isthmus of the throat, sometimes penetrating into it from without, sometimes confined to the mucous membrane itself. Although they may have been observed indifferently in different spots, there are some, however, in which they appear to localise themselves more especially. Such are, the furrow which unites the gums and the lips; the frænum of the upper lip (pointed out by Sanchez[1] as the spot in which pustules are "the least equivocal sign of the venereal poison"); an antero-posterior horizontal line, occupying the middle of the cheek; the edges and tip of the tongue, the roof of the mouth, the pillars of the velum, and the tonsils. But they sometimes affect one only of these sites, and, in this case, it is most frequently, after the lips, the borders of the isthmus of the throat which are alone attacked by them. This view is important for practice. It is probably to the extension of mucous patches towards the larynx that a particular phenomenon common enough in this affection is due. Rosen,[2] in tracing his sketch of the symptoms, speaks of "a hoarseness frequently occurring without any manifest cause." Colles[3] remarks that the voices of infected children present a characteristic change of tone; that they have "a peculiarly hoarse cry." Several observations which I have collected on this subject make similar mention of this circumstance, so that it appears to me to be more valuable, as an element of diagnosis, than a purely accidental epiphenomenon. The simple fact of hearing this hoarse voice may suffice to awake a

[1] 'Maladie vénér.,' Sanchez, 1785.

[2] Mahon-Lamauve, 'Recherches importantes sur l'existence, la nature des Mal. syph. dans les femmes enceintes,' etc., p. 371.

[3] 'On the Ven. Dis.,' p. 269.

suspicion of the existence of some general infection. The modification of the voice here alluded to depends, in my opinion, upon the development of mucous tubercles or a simple erythema in the neighbourhood of the aryteno-epiglottidean ligaments. It is analogous to a syphilitic dysphonia sometimes observed in adults at a corresponding period, *i. e.*, coincidently with the first outbreak of secondary symptoms. Of this affection I have endeavoured to particularise the seat and the origin, and to its study I propose to devote a separate work.

The physiognomy of these lesions is the same in the mouth: a superficial ulcer maintaining that character; always appearing in the shape of a circle, a crescent, a horseshoe, or an ellipse; of a diphtheritic white colour, becoming red only when on the point of healing; such are the characteristics of this form of ulceration. The irregularly circular shape is sometimes the result, not of a single ulcer, but of several grouping themselves in such a manner as to produce it. It is especially on the inner surface of the lips that we can form a clear idea of this characteristic tendency.

A single glance generally suffices to recognise both the existence and the nature of the change, but if it is more deeply situated, the examination may become very difficult or even impossible. The experienced practitioner knows, it is true, how to take advantage of the moment at which the child cries, and by placing it in a good light and quickly depressing the tongue with a small spoon, generally succeeds in obtaining a view of the back part of the mouth. But this manœuvre, so difficult even in the adult who lends himself to it, is far more embarrassing in a child who resists, and often meets with encouragement to do so in the ill-advised tenderness of its parents. Although I have examined, or rather because I have examined, a great number of infants at the breast, I consider myself justified, without fear of contradiction from those accustomed to such researches, in propounding the following axiom:

The practitioner can never answer for the non-existence of lesions in the posterior part of the mouth of a new-born child.

If we bear in mind that mucous patches sometimes affect only one side of the isthmus of the throat, and if we take into consideration the great number of nurses really infected by children whom the practitioner has declared and certified to be exempt from

any disease in the mouth, we shall at once understand the justice and importance of this remark.

Various affections may be confounded with mucous patches in the mouth. Stomatitis and mercurial ulcerations will easily be distinguished by the circumstances of their origin, by their gray colour and peculiar odour, and by the redness and swelling of the neighbouring parts. Aphthæ, round, isolated ulcers, clearly circumscribed and confined to a small number of points, present no great difficulties of diagnosis. Muguet with its pseudo-membranous or *cryptogamic* secretion would be more liable to cause confusion on account of the form which it assumes if the irritation of the mucous membrane by which it is preceded, its rapid progress, and the functional derangements by which it is accompanied, did not aid the diagnosis. It appears unnecessary to speak here of *noma* or gangrene of the mouth, so essentially different from the comparatively slight affection of which we are treating.

V.—*Papulæ and Squamæ.*

These two kinds of eruption, which are but degrees of the same anatomical lesion, are very rarely observed in new-born children in the well-marked form which they present at a more advanced age. This is true to such an extent that a distinguished writer on syphilis (Egan) affirms "that he has never seen an instance of papular syphilitic eruption." The explanation of this is to be found in the fact, that the soft texture of the skin, at this period of life, favours the development of mucous patches and the other moist forms of cutaneous affection. In fact, the cutaneous secretion does not assume, at that age, either the hardness or the dryness observed in the adult; and no sooner are the soft and thin squamæ formed at the summit of a papule or on the surface of a patch, than they are macerated by the normal moisture of the part and become detached before they can acquire, by the evaporation of their fluid constituents, the pearly and brittle appearance which they would assume in the adult.

We also often see in children anomalous eruptions, not furfuraceous at the summits, copper-coloured patches without desquamation. The dermatologist familiar with these peculiarities will recognise in these, as it were, bastard forms—in these *squamæ sine squamis*—the fundamental change which constitutes them; and will

profit by his experience to adapt the local and general treatment to the real and not the apparent lesion. For squamæ belong to a more advanced period of syphilis than exanthems, and do not yield to the same topical remedies. We see that these details are not of importance for nomenclature only, but must be borne in mind in practice.

This difference of form according to age is so great that even in the palms of the hands, where syphilis in the adult never produces anything but pustules and squamæ, true mucous patches are sometimes observed in new-born children, although they are, it is true, less moist and less secreting there than elsewhere.

It will readily be surmised that although squamous syphilitic eruptions are rare in infants, they do occur, being the result of causes which vary in degree in individual instances. It sometimes happens, then, that true scales are observed in situations and in subjects more favorably constituted for their production. Thus Cazenave[1] quotes two instances of horny eruption, observed in the palms of the hands and soles of the feet of children whose parents were affected with constitutional syphilis prior to their conception.

Deutsch[2] reckons amongst the secondary symptoms of new-born children a *syphilitic psoriasis of the eyelids*, complicated with sycosis, and soon accompanied by induration of the mucous glands. Is this affection really squamous, or are not these supposed squamæ merely the dried mucus, which, in inflammations of these glands, always covers the free edge and part of the external surface of the eyelids?

VI.—*Pustules.*

If we accept the terminology of the generality of writers, the history of this form of eruption would be almost the whole history of congenital syphilis. There is, in fact, no venereal affection of the skin to which the name of pustule has not, more or less correctly, been applied. A child is said to be born *covered with pustules;* this is what we hear repeated every day by medical men, as well as by others; the term conveys a distinct impression, and is therefore made to serve as a designation for the most dissimilar changes. Thus mucous patches, in which no one has ever observed the elevation

[1] Cazenave, 'Traité des Syph.,' p. 418.

[2] Op. citat.

of the epidermis by pus which constitutes a pustule, are known to many only under the denomination of "flat *pustule*," or "mucous *pustule*." Bertin has contributed not a little to maintain this confusion by enumerating seven kinds of pustules, the *prominent*, the *flattened*, the *tubercular*, *French-pocky*, *crusted*, *chancrous*, and *ulcerated*. Nisbett speaks of copper-coloured pustules, which *resemble scorbutic blotches*. Even the latest and best writers have not always been able to avoid this deplorable vagueness. I will quote Bouchut[1] as an instance of this, who, having to translate from the English the words "tuberculated condylomatous," could find no better mode of rendering them than the expression "whitish flattened pustules" (pustules blanchâtres aplaties)!

When confined to the only lesions which deserve the name, the description of pustules in new-born infants will, on the contrary, be very short, although, with copper-coloured spots, they form the most frequent syphilitic eruption at that period of life. But the most remarkable point in connexion with this form of eruption is that it does not, like the two preceding ones, belong to a particular period of the disease. Far from this, we see it coincide with the signs of the outbreak of the general infection, or constitute, at a later period, one of the symptoms of the most advanced cachexia. With some attention, however, we may succeed in recognising in the form and appearance of the lesion certain differences dependent upon the difference in the period of their manifestation. In this way, three kinds of pustules may be distinguished:

Syphilitic acne, appearing early and following papulæ, and being itself, if rightly considered, nothing but a more prominent papula, whose point has suppurated. These hard, indolent, isolated pimples are observed chiefly on the back, buttocks, shoulders, and chest. The pus remains some days, is then absorbed, or discharged externally, and the crust once detached, a small cicatrix appears in its place. Although this eruption may spread over large surfaces, it is a simple and harmless variety, both because it denotes a less confirmed diathesis, and because it does not leave unsightly traces of its existence.

Syphilitic impetigo, so common on the hairy scalp in adults, is, as we have seen, replaced in new-born children by mucous patches, which assume a peculiar character. True impetigo,

[1] 'Gaz. méd. de Paris,' 1850, p. 297.

at an early age, appears on the face in the form of numerous confluent pustules, which soon burst and form, by the rapid evaporation of the fluid parts of the pus, yellow, thick, and prominent crusts. These unfortunate children, covered with a hideous mask, which renders them objects of horror and disgust—which, moreover, impedes the exercise of the functions most essential to life—often sink, less under the effects of syphilis than under the local effects of this grievous symptom.

When these crusts are removed, the subjacent surface is seen to be studded with superficial, grayish ulcerations. If left uncovered for a single night the crust is found, next day, to have formed again, unless an antisyphilitic treatment has been followed during the time.

The chest, neck, axillæ and groins are also sometimes the seat of this kind of impetigo. But, remarkably enough, the eruption has no tendency to spread by confluence; it has favorite spots, which it neither leaves nor oversteps.

Syphilitic impetigo may be distinguished from simple impetigo, so common in infants at the breast, by the copper-coloured areola which surrounds it, by the ulcerations concealed by the crusts (which are absent in the non-syphilitic eruption), and by the dryness and deeper colour of the crusts themselves. Lastly, the coexistence of an entirely similar eruption on the hairy scalp is as rare in syphilitic as it is common in the simple form of impetigo.

Syphilitic ecthyma.—This graver form of eruption does not appear until an advanced stage of the disease, or when the latter is very severe, or, again, when the subject of it has, either originally or from the influence of morbific conditions, a debilitated constitution. It presents itself on the extremities, especially the legs, and on the buttocks, in the form of violet-coloured patches, which are afterwards converted into pustules, and the fluid, instead of being simply purulent, is mixed with blood. In this form of eruption, a thick, blackish, circumscribed crust, surrounded by a livid or copper-coloured areola, covers a deep ulcer. The ulceration forms the most striking symptom as well as the most serious danger, for, if the necessary treatment be deferred, or be not assisted by generous diet, the loss of substance progresses and in a few days the disease commits irreparable ravages.

Non-syphilitic ecthyma sometimes produces analogous disturb-

ances in individuals enfeebled by privations and misery; but it attacks adults only, and, above all, old people. When ecthyma is observed, then, in new-born children, the circumstance of the age alone renders it highly probable that it is of a syphilitic character.

VII.—*Bullæ.*

Some children present, at birth or a few days after it, an eruption of bullæ, the principal seats of which are the soles of the feet and palms of the hands. Paul Dubois and Depaul, who have carefully watched the progress of this eruption, have seen it commence by a violet tint of the skin, confined to these two situations. In from forty-eight to seventy-two hours the parts become covered with a great number of vesicles, varying in volume from the size of a hemp-seed to that of a large lentil, and which are filled from the first with thick and milky serum. These vesicles gradually enlarge and pass into the form of bullæ; the fluid they contain becomes yellower, and deeper coloured. At the same time other similar elevations of the cuticle are seen, either near the first eruption or upon other parts of the body, but, except in the plantar and palmar regions, they are less numerous and smaller, and the violet colour of the skin around them is not so well marked, while on the trunk this tint is generally wanting altogether.

With the progress of the local affection, the child wastes away and becomes enfeebled; it cries continually and refuses the breast. The face changes and its expression is that of suffering. Meanwhile the bullæ break and blood mixed with sanious pus escapes. Large scales of epidermis, covered in some places with true crusts, occupy the affected part. If these are removed, the surface beneath is seen to be formed by the dermis, "which is red and intact in some cases, superficially eroded in others, more deeply so in a small number; the edges of the wound, in the latter case, are sometimes slightly raised and rounded, presenting at different points the appearances of the latest periods of ecthyma."[1]

The general health of children suffering from such symptoms is so rapidly and seriously affected that they usually sink in a few days. I have seen one instance, however, in which a child, born

[1] 'Extrait du Discours de M. Paul Dubois, séance de l'Acad. de Méd.,' July 8, 1851.

of a mother accidentally infected during pregnancy, survived four months, and recovered from pemphigus without having undergone any anti-syphilitic treatment. It, however, never regained its strength, although its nurse was twice changed and it was afterwards treated specifically. It died in a state of exhaustion, the cause of which remained obscure, as no *post-mortem* examination could be made. Depaul[1] has published a somewhat similar case, in which the bullæ and another concomitant and evidently syphilitic eruption were cured; but new complications then occurred within the chest, under which the child sank when only nineteen days old. The *post-mortem* examination showed the presence of several indurated nodules in the substance of each lung. In a case of Mr. Startin's, a child, both of whose parents were syphilitic, recovered from pemphigus, but died in ten days of a pleurisy which supervened shortly afterwards.[2]

Galligo ('Gazetta medica Toscana,' 1852, p. 123), was more fortunate, having saved two children by the administration of bichloride of mercury, of which one was born with pemphigous bullæ and the other similarly attacked a month after birth.

Such a group of phenomena being present, the inference of a syphilitic origin will be the more confident in proportion as the admissions of the parents, and the coexistence of other evident signs of syphilis, give it support. Towards the end of the last century Wichman propounded this view, which Jörg[3] and Dugès afterwards supported with their authority. Stoltz[4] regards pemphigus as the most common expression of congenital syphilis, and Cazenave,[5] after having been for some time in doubt as to the nature of this affection, in the end adopted the same opinion. Its opponents have, however, not been either less numerous or less zealous than its advocates. As early as 1794, Osiander[6] refused to admit this eruption amongst the manifestations of venereal disease. Krauss[7] equally with Gilibert,[8] in his special monograph on pemphigus, does not connect it with syphilis.

[1] 'Gaz. méd. de Paris,' 1851, p. 472.
[2] 'Medical Times and Gazette,' 1854, p. 134.
[3] 'Manuel des Mal. des enfants,' 1826.
[4] 'Thèse de M. Hertle,' Strasburg, 1847.
[5] 'Traité des Syph.,' p. 276.
[6] 'Mémoires de méd. et d'accouch.'
[7] 'De pemphigo neo-natorum,' 1834.
[8] 'Monogr. du pemphigus.'

But these differences of opinion, overlooked in the past, vanish before the striking discussion which occurred in 1851 at the Academy of Medicine in Paris, between the chief representatives of the two opinions, Paul Dubois for its syphilitic origin, and Cazeaux against it. In saying *for* and *against* we do not, perhaps, sufficiently take into account the restrictions which these two honorable orators vied with each other in combining with the expression of their convictions; they both more than once intrenched themselves behind the doubt of the sage, appealing to new observations and repudiating any wish to pre-engage the future. But, in spite of this apparent reserve, the most marked opposition did not cease to develope itself; and we conscientiously believe that we are correctly interpreting their thoughts, if not their words, in attributing to each of them, on this point, the part and the authority of the head of a school. Let us sum up the arguments advanced on both sides.

Dubois says, that pemphigus in new-born children is syphilitic:

I. Because in the generality of cases he has been able to discover traces of a previous syphilis in the parents of the children affected, or to obtain from them convincing information on that point.

II. Because other lesions, characteristic of syphilis, have several times been observed simultaneously in the child, viz., once a perforating ulcer of the septum nasi; once ulceration of the velum palati; once caries of the tibia, (by Laborie); well-marked syphilitic roseola, three times (by Cullerier and Galligo), once by Moreau and Baron, once by Depaul; a pustular crusted eruption of the face; and once caries of the orbital vaults, recognised by Cruveilhier. We shall not speak of the affections of the thymus gland and lungs, which have frequently coexisted with pemphigus, because their syphilitic character, although very probable, would itself require more direct demonstration.

On the other side, Cazeaux avers that pemphigus in new-born children is not syphilitic, because:

I. The description of so-called syphilitic pemphigus in new-born children differs in nothing from the simple pemphigus of adults. There are the same characters, without any of the special signs appertaining to syphilitic eruptions and distinguishing them so clearly from ordinary eruptions.

II. This kind of pemphigus appears at birth, or immediately

afterwards; but the symptoms of hereditary syphilis do not generally show themselves until much later. (This argument has been more than sufficiently refuted, at least in respect to its exclusiveness, by what has been said in the Section on Ætiology.)

III. At l'Ourcine, where a great number of women are delivered who are either themselves infected, or pregnant by men who are so, a child has never been seen to be attacked by pemphigus.

We quote only the direct arguments, for the examination of the personal estimates and disputes to which each of them has been subjected would be out of place here. They are to be found, however, in the minutes of these instructive meetings. What must occupy us exclusively, and furnish us with the basis for our opinion, are the facts which the discussion has brought to light, and the accuracy of which has borne the test of a long and hot discussion which would have been fatal to every inexact allegation. But, confining ourselves to these solid elements, we must regard as established:

A. *That pemphigus in new-born children presents none of the physical characters which distinguish a syphilitic from a simple cutaneous eruption.*—The circular form does not exist. The copper colour is also wanting; and the violent tint, which might be taken for one of its modifications, does not, as even Paul Dubois admits, appear around the bullæ when these are situated on the trunk. Neither is there anything more constant or significant in the presence of yellowish pus in the bullæ, which, according to Bouchut,[1] would be a good distinctive sign. The ulcerations, most frequently absent and very superficial when they exist, rarely attain a certain depth, and never have the floor greyish nor the edges raised. But Gilibert, Rayer, and Gibert have seen ulcerations following simple pemphigus in the adult.

B. *That syphilitic pemphigus in the adult is a rare affection, if it occur at all.*—No author has mentioned this form of eruption as occurring in adults. Gilibert has no place for it in his classification, rich as it is in divisions. Gibert[2] says formally; "Neither in new-born infants nor in adults is the pemphigoid form observed as a manifestation

[1] 'Traité prat. des Mal. des nouv.-nés,' p. 869.
[2] 'Séance de l'Acad. de Méd.,' June 17th, 1851.

of syphilis; I have met with no instance in my own practice, nor in the special hospital at which I have had the opportunity of making observations." Cazenave[1] writes: "Syphilitic pemphigus is not a very rare affection, but it attacks new-born infants exclusively, or, at least, I know no other form." Ricord,[2] who admits the existence of syphilitic pemphigus in the adult, confesses "that there is no distinctive sign serving to distinguish syphilitic from non-syphilitic pemphigus, as is the case in other cutaneous affections."

Thus, while all the syphilitic eruptions of new-born children have their equivalents in those of adults; while syphilodermata are all, without exception, distinguished by peculiarities of aspect so marked that, where these are absent, the practitioner is justified in declaring the affection not to be venereal, pemphigus alone is to form an exception, and to take a place in this family so recognisable by its features, without presenting the least physical resemblance to any one of its members. To prove the identity, resemblance being wanting, it is sought to argue from the origin and relations of this eruption. But are these titles available? Is this a case in which to say that the substance outweighs the form? Certainly, if all *pemphigoid* children proceeded from parents infected with syphilis, and all also presented, simultaneously with the bullæ, evident traces of constitutional syphilis, we might shut our eyes to the want of characteristic marks, and regard these coincidences as proofs. But this is not so. Under such circumstances, we often address, and regret to have done so without any result, a biassed inquiry to the father and mother. Most frequently pemphigus is the sole appreciable lesion in the child.

Let us confess, however, that the number of cases of infantile pemphigus, in which the existence of venereal disease in the parents has been ascertained, has been sufficient to make an impression upon unprejudiced minds. And, although most of the members of the Academy still entertain doubts as to the nature of this eruption, the mixed opinion, that of *conciliation*, which makes it not an immediate result of syphilis, but an indirect sequela of the exhaustion which that disease produces, has obtained many suffrages. I adopt this solution, but would fain explain and define it.

That a subject rendered cachectic by the influence of unhealthy conditions may contract pemphigus would be easy to prove by facts.

[1] Op. citat., p. 277.

[2] 'Séance de l'Acad. de Méd.,' July 1st, 1851.

That syphilis in the parents, by poisoning the sources of life in the fœtus, should produce the same effect, may also safely be admitted. But when we compare numerically the consequences of the different causes, we are surprised to see that (although so many other elements of enervation, besides syphilis, affect the product of conception), in a given number of new-born children affected with pemphigus, syphilis in the parents will much more frequently account for it than any other cause. This naturally leads to the idea that venereal poisoning by the father or mother, without having operated precisely as a *specific* agent, has yet played a more special part in the production of the disease than any other debilitating influence.

But if, for the purpose of determining the essential nature and the range of this influence, we observe what occurs in adults, we shall see that in them syphilis produces, and that very frequently, certain symptoms which, without being signs of syphilis, nevertheless depend upon it in the most evident manner. Thus a chloro-anæmic condition very frequently supervenes at a certain period of the secondary stage; and alopecia affects a great number of syphilitic subjects about the same period. Are these, taken singly, sufficient proofs of the existence of syphilis? Undoubtedly they are not; for these derangements are not accompanied by the physical characteristics of a venereal lesion; and further, they are very frequently met with in other individuals, and are due to entirely different causes. But, after all, they are so often allied to syphilis that whenever I see a man, in the flower of his age and the fulness of health, suddenly affected by chloro-anæmia or a falling off of the hair, I say to myself, and that without being often deceived: *syphilis has something to do with that.* These effects, however, which are not signs but indications; these changes, which would not justify us in condemning, although they authorise us to accuse, serve us as examples whereby to fix the limits within which we believe pemphigus to depend upon syphilis. It does not bear the stamp of that disease; it springs from it specially, but not specifically. When developed to a certain extent, the diathesis produces it by reason of the debility it has imparted to the organism, and not as a consequence of the poisoning it has effected. This eruption rather indicates the degree of the infection than reveals its nature. It is not a reagent; it is a thermometer. But may not the thermometer, by the regularity and constancy of its movements on the approach of certain bodies, sometimes point out to the

attentive observer something more than their mere temperature? Does not, for instance, the boiling-point of certain liquids suffice to show that they belong to the class of ethers? Now this has been precisely the case with pemphigus for the eminent pathologists who have examined the circumstances under which it manifests itself, and who have erred only to a slight and excusable extent by assuming a link of intimate causality where only a mediate relationship exists. In a therapeutical point of view, the examples of chlorosis and alopecia already quoted further explain the success of certain modes of treatment, while they reduce to its true value the assistance these may render us in drawing conclusions as to the syphilitic character of the lesion. Thus, Depaul has published a case of pemphigus in a new-born infant, in which the eruption improved and disappeared almost entirely during the administration of bichloride of mercury. Two similar results have been obtained by Galligo. But every one knows that in syphilitic chlorosis mercury, *given with moderation*, is the best remedy. The same remark applies to the alopecia which supervenes during secondary affections (provided always that it has not been caused by the abuse of mercury). Thus the treatment of this diathesis is at the same time the treatment of even its remote effects. This does not mean, however, that the specific has an equal power here to that which it displays over constitutional affections clearly defined and without complication; for, let us state in conclusion, the cases of Depaul and Galligo are at present the only ones in which antisyphilitic treatment has been observed to check the progress of congenital pemphigus.

It has been my good fortune to observe a case well fitted to demonstrate the truth of what has just been advanced: I give a somewhat detailed history of it, on account of its direct application to the question at issue, and in spite of its having occurred in an adult:

Joseph L—, æt. 34, of a feeble constitution, pale and drooping, who had long followed the occupation of a weaver in the village of H—, had had, while at work, a chancre which he treated by cauterization only, followed by various symptoms which were slight but denoted venereal poisoning: obstinate and frequently recurring pustules about the anus and scrotum, scales upon the hands and feet, and thick crusts on the hairy scalp. He was freed from these by treatment in six months.

Restored to his occupations, J. L— was never more than a year without being tormented by the reappearance of some of the sequelæ of this disease.

Pains, vague at first, became fixed in the right elbow and in both tibiæ; tumours were formed several times in the velum palati and suppurated.

Under the influence of nocturnal pains, this man, worn out already by previous excesses and by the unhealthy circumstances of his occupation, gradually became weaker and more emaciated. Few regular curative attempts were directed against these later syphilitic changes, in spite of the great injury manifestly inflicted by them on his general health. At the end of July, 1845, he entered the hospital de l'Antiquaille, for an eruption of about six weeks' standing. At that time, after a few days of general uneasiness, there had risen up on his arms, legs, and belly, large bullæ, which soon collapsed, so that, when he entered the hospital, nothing was to be seen in those regions, which were redder than in the normal condition, but the epidermis folded and dried up in the form of thin scales. The chest and neck, less early and less severely affected, presented only a slight desquamation.

All these parts were painful to the touch. For the last fifteen days febrile excitement had existed, continuous, with evening exacerbations; there were violent thirst, a clammy mouth, want of appetite, and progressive debility. The eruption had no coppery tint.

An old, stationary, almost indolent node was at the same time observed on the right tibia; on the left tibia, near the knee, there was periostitis of more recent origin, the seat of nocturnal pains; below the right elbow a large, resisting, painful node, which had already slightly inflamed the skin. All these symptoms had existed some time before the outbreak of the pemphigus, and did not become aggravated after its appearance. Iodide of potassium was administered, but it only lessened the periosteal pains, and did not exercise so marked an influence on the node, the prominence of which, however, was somewhat diminished.

As for the pemphigus, several fresh bullæ of which developed themselves under my observation, it progressed steadily and rapidly. Gelatinous sulphur baths, then alkaline baths, preparations of iron and quinine, combined with opium and aided by appropriate topical applications, were insufficient to stay the progress of this affection or the deleterious influence exercised by it, in its turn, upon the general health; the patient gradually became weaker, and sank two months after his admission. In this case, the diagnosis of chronic simple pemphigus was made by several medical men. There can be no doubt, therefore, of the nature of the disease. As to its origin, several influences concurred to explain its appearance in this individual, but there is no doubt that the tertiary syphilitic condition, so highly debilitating, was its principal cause, as it was from the moment at which the lesions of that period manifested themselves that the extreme constitutional relaxation, the actual agent in the production of pemphigus, commenced.

VIII.—*Coryza.*

The history of syphilitic coryza is a singular one. All writers, without exception, regard it as an inflammation of the mucous

membrane, and designate it accordingly. Bertin[1] classes it amongst the venereal catarrhs; and yet it differs essentially from the phlegmasiæ, as the enumeration of its symptoms will show.

In this affection the child discharges from the nostrils a fluid which is at first thin and serous, but which soon acquires more consistence. It appears *stopped up*, an expression which denotes vulgarly, but very clearly, the state of the voice and of respiration in such a case. This obstruction of the nasal breathing is effected by a somewhat curious mechanism. Whilst the child is engaged in sucking, the respiration is carried on through the nasal fossæ; the air therefore circulates more rapidly at that moment in these cavities, and the evaporation of the fluid which they contain becoming increased in the same proportion, the result is the deposition of the solid parts of this secretion, or in other words, the formation of *crusts*. But so soon as a crust is formed it provokes new ones; for so much the more does it narrow the passage, and accelerate the respiration and evaporation, &c. It is by this vitiated circle that the rapid obstruction of the nostrils in children attacked by coryza of this kind is to be accounted for.

At the same time the continual efforts which this embarrassment occasions detach the crusts, which, in the case of a membrane so vascular and so predisposed to hæmorrhage, cannot occur without causing some loss of blood. It frequently happens, in fact, that as, under such circumstances, the cause only becomes aggravated by time, the discharge of blood may attain the proportions of an epistaxis. Trousseau and Lassègue quote instances of this.[2] Thus, as a first source of danger, the respiration may become very much impeded by this circumstance alone. Bertin[3] "has seen three children affected with coryza, of which the discharge having dried up entirely obstructed the passage through the nostrils, so that they could breathe through the mouth only."

As a direct consequence, nutrition is equally threatened, and in its most immediate source. In fact, as the mouth becomes the sole passage for the admission of air, it will easily be understood that since the child can no longer breathe while sucking, it will only take the breast to quit it again immediately, not being

[1] Bertin, op. citat., p. 38.
[2] 'Archives Gén. de méd.,' October, 1847.
[3] Op. citat., p. 106.

able to retain it sufficiently long for nutrition without being exposed to the danger of suffocation.

At the end of a very few days, however, the nasal secretion changes its character and assumes a sanious appearance. There are also seen, on the external surface of the nostrils, pustules, fissures, true and sometimes deep ulcerations, lesions which not unfrequently invade the alæ nasi and the upper lip. Ulcers of the throat often complicate this affection, which may spread as far as the larynx and render the voice dull, hoarse, or almost extinct. At a more advanced stage, but one which is in general very rapidly reached, the bones become affected, and fragments of them are found in the crusts thrown off. On looking obliquely at the face of the child, when placed against a window, we observe the septum nasi to be perforated. Lastly, in a great number of cases, the ultimate flattening of the nose shows that it has lost its support in consequence of the destruction of the bones which form its frame-work.

A third cause of death arises from the absorption of the putrid gases which are developed. Every one knows the horrible fœtor which pus acquires in the anfractuosities of the nasal fossæ. The gaseous products of decomposition, carried to the lungs by the aid of the inspirations, the energy and frequency of which are doubled by the obstacles which impede them, naturally exercise the most deleterious influence upon the health of children against whom so many fatal chances are combined.

This combination of symptoms is one of the most frequent occurrences in congenital syphilis. There are few infected infants which do not present it to a certain extent. At the same time that it is one of the most common, it also often constitutes one of the earliest signs; sometimes, however, it does not manifest itself until a later period of the disease.

We know that in the opinion of the earlier writers this condition was so decidedly a blenorrhagia that Bertin[1] points out metastasis as one of its causes, saying that it "may follow ophthalmia promptly suppressed." Rosen said "It is a running like a cold in the head." According to Cazenave,[2] "the patient experiences the ordinary symptoms of coryza." It is even instructive to observe into what errors very distinguished observers have been

[1] Op. citat., p. 39.
[2] Op. citat., p. 440.

led by setting out with this erroneous view. Thus fissures, pustules, and ulcerations were observed on the exterior. Was it not very natural to conclude from this that the same lesions occupied the interior of the nasal cavities? But, no! Carried away, no doubt, by the conventional name of the disease, Trousseau and Lassègue[1] write that these serious lesions are *caused by the contact of the nasal secretion* with the skin in the neighbourhood of the nose.[2]

Assuredly, if this explanation were true, perfectly similar eruptions ought infallibly to appear on the skin of the eyelids from the contact of the much more acrid, abundant, and continuous discharge furnished by blenorrhagic ophthalmia. And yet, with the exception of an erythematous redness, more or less vivid, similar to the redness of the upper lip which accompanies simple catarrhal coryza, who has ever seen serious changes occur in such cases? Who, above all, has ever detected the existence of ulcers?

If we reflect how chimerical, how contrary to daily experience, this assertion of Bertin is, that the ophthalmia of new-born children terminates in, or is converted into coryza; if we reflect upon the differences which distinguish the sketch given above from the description of simple inflammation of the nasal fossæ, we shall easily be convinced that this affection can no longer retain the name under which it has hitherto been known.

But if we deprive it of this name, by what other shall we replace it, and, first of all, is there any other comprehensive enough to include all its symptoms? Is not a disease in which ulcers, necrosis, pustules, a discharge, and hæmorrhage are observed, rather a collection of different changes than the expression of a single lesion?

It appears inexpedient to attempt to answer this question too positively, either one way or the other. It is well known that the

[1] Op. citat.

[2] Mistakes as to the cause of the ulcers have also sometimes occasioned, by reciprocity, errors as to the nature of the primary lesion. Thus, in an account of congenital syphilis, given by the Faculty of Medicine of Paris, in 1775, in the form of a consultation addressed to the physicians of Aix, this phrase occurs: "Cracks are formed at the commissures of the lips, accompanied by *a suppuration of the same character as that of the eyes*, which thickens into blackish crusts upon the face, and gives rise to ill-conditioned aphthæ in the inside of the mouth."

affection does not consist in a pure and simple phlegmasia of the pituitary membrane, and its precise nature is quite unknown. The nasal cavities admit of too insufficient direct examination to authorise us to regard any single lesion as the exclusive cause of the symptoms, or *à priori* to reject others. In the neighbourhood of the nostrils, Bertin has seen pustules, Troussean and Lassègue ulcers, and Depaul vesicles. It is very possible, then, that the starting point of the changes observed has been sometimes one, sometimes another of these forms, often several of them combined. Logically speaking, these suppositions are legitimate, as autopsies seldom come to our aid, and even if they did would not tend much to elucidate the problem, on account of the *post-mortem* modifications imparted to the physiognomy of these elementary anatomical changes. However, considering the comparatively early period at which coryza generally shows itself, the nature of the syphilitic manifestations which usually coincide with its appearance in analogous parts, as the mouth or the anus, and the form of the eruption which may sometimes be observed at that time about the openings of the nostrils, I should be inclined to think that the affection most frequently consists in the development of mucous patches on the Schneiderian membrane. This hypothesis would accord very well with the change from serous to purulent which the nasal discharge undergoes; for it has been ascertained that the mucous patches secrete a serous fluid so long as they are not ulcerated, and pus when they have been converted into ulcerations. Neither is the view refuted by the destruction of the bones which not unfrequently accompanies coryza. In fact, the disease in question is not a necrosis caused by the direct action of the venereal poison upon the osseous tissue, but caries, resulting from the circumstance that the ulcers, by laying bare a portion of the bony skeleton, deprive it of its elements of nutrition. The bone ceases to live because its blood-vessels have been injured; but any other cause, whether mechanical or vital, which destroyed the mucous membrane to the same extent, would produce precisely the same effect. If necrosis is more common here than in other parts of the body, it is solely because the bony plates, besides being very thin, are at many points, as on the septum, covered by mucous membrane on both their surfaces, and, consequently, there is a double chance of the ulcers producing those effects upon the

vitality of the bones which have been stated to follow the destruction of this membrane.

Syphilitic coryza cannot, then, be very easily mistaken for a simple nasal catarrh. If such an illusion could exist at first, it would soon be dissipated by the rapid progress and threatening character of the disease. Trousseau and Lassègue give us as a distinctive sign of syphilitic coryza, that it always commences in the interior of the nostrils, that its complete evolution is effected there, and that it has less tendency to spread to the external parts than to penetrate deeply towards the pharynx, or to advance along the *velum palati*. To conclude, this condition is the more worthy of serious study in that it is frequently the only symptom of hereditary syphilis, and always one of the earliest.

IX.—*Onychia.*

There are two kinds of onychia, or syphilitic affection of the nails. The one consists only in inflammation of the matrix of the nail, with coppery discoloration and desquamation, more rarely pustulation, of the skin which covers it. This, the simple form, more frequently affects adults than new-born children. It involves but few changes in the texture of the nails. I find it noted only once amongst the facts which have come to my knowledge. A child, observed by Albers,[1] presented soon after birth a small pustule at the side of the nail of the left thumb, and several other pustules, which assumed a decidedly syphilitic character, appeared on different parts of the body.

At other times an ulcerative process is carried on at the same spot. The matrix of the nail, being the seat of an organic change, soon reacts upon the nail itself, whose conditions are so directly influenced by its pathological modifications. In the former case, the nutrition of the nail was interfered with. In the latter, its vitality is destroyed by the serious lesion of its generating organ. The nail sometimes becomes dry, whitish or violet-coloured, and wrinkled; it becomes detached and falls off, being surrounded on all sides by suppuration, without having undergone these preliminary changes. Bertin has twice[2] seen the nails of the hands and feet

[1] 'Ueber Erkenntniss und Kur der syph. Hautkrankheiten,' p. 19.
[2] Op. citat., p. 59.

thrown off by this affection of their roots. It may even happen, where the diathesis is very intense, or has not been combated at the proper time, that the renewal of the nails may be deferred, or the exfoliation may take place several times in succession before the re-establishment of entirely normal conditions. Guerard[1] gives as a singular instance of this persistence the following observation: "I have seen," he says, "in a new-born child affected with syphilis, the nails of the hands and feet gradually become atrophied, grow longer and narrower in appearance, and fall off at last to make way for more healthy nails, which underwent the same process; and this happened three times in succession, before really sound nails remained."

X.—*Lesions of the Osseous System.*

Notwithstanding the vital hyper-activity of the osseous system connected with its growth, and the normal modifications of its texture in infancy, syphilitic lesions of the bones, so common in the adult, are extremely rare in infants. We scarcely find them mentioned at all in any special work on this subject; and the annals of science offer, at most, five or six well-authenticated instances.

This infrequency will easily be understood when we reflect that, in general, constitutional syphilis in adults does not affect the bones until it has long laid waste the external tissues, the mucous membranes, and the skin. But one of two things occurs; the disease which attacks the new-born child is either severe or slight. In the former case, it usually proves fatal before it has reached the tertiary stage; in the latter, specific treatment most frequently suffices to neutralize it; and in this manner the disease fails to reach the more advanced stage in which changes in the bones are usually developed.

Is this immunity of the osseous system to be attributed to the state of inaction in which its mechanical functions remain at an early stage? I admit for this circumstance no other effect than that of defending the bony skeleton from traumatic lesions and contusions, which, here as in the adult, might become the exciting causes of periostitis or exostosis.

Not only are syphilitic affections of the bones rare in new-born

[1] 'Journal de Siebold,' t. x. § 553.

children, but they scarcely ever assume the well-marked forms which render the diagnosis of them, at a different age, so easy. Bertin[1] is the only writer who speaks of having seen cases of periostitis; and he adds that, *not to multiply observations too much*, he will only quote one such. And even in this single case we can scarcely regard his affirmation as a description, since he contents himself with saying that the child was the subject of a *tumour the size of a pigeon's egg* on the great trochanter, and of a considerable periostosis on the upper and posterior part of the elbow. It must, however, be admitted that the coexistence of characteristic pustules in this subject left little doubt as to the nature of the osseous lesion.

With the exception of this case, all those which are known belong to changes the specific nature of which is still much less certain. Laborie has quoted an instance of congenital pemphigus complicated with caries of one of the tibiæ.[2] Cruveilhier[3] speaks of a "child born at the full term, ill developed, with characteristic symptoms of constitutional syphilis. The bones which compose the orbital vaults were eroded in a part of their thickness." This was nothing else than caries. We have already seen that coryza is not unfrequently accompanied by a change in the thin bones which form the internal framework of the nasal fossæ. But it is then always only a question of caries or necrosis. Rosen quotes a case of caries of the hard palate, coinciding with evident symptoms of syphilis. But in instances of this kind, as in the case of the necrosis which complicates coryza, the lesion of bone is probably only the effect of its denudation by the ulcers which have destroyed the mucous membrane. It is an accident which has nothing specific in it, since any other cause producing denudation might give rise to it. Doublet and Mahon[4] have seen suppurating tumours of the exterior of the cranium, in new-born children affected with syphilis, produce caries of the neighbouring bones. Here the same reservations are to be made as above.

Bouchut[5] has not unfrequently observed a lesion which is neither

[1] Op. citat., p. 69.

[2] 'Séance de l'Acad. de Méd.,' July 1, 1857.

[3] 'Anat. Pathol.,' 15th obs.

[4] It appears useless to describe separately these tumours, which Bertin compares to "gummy syphilitic tumours."

[5] 'Traité prat. des Mal. des nouv.-nés.'

caries nor degeneration of the periosteum, but premature induration of the long bones. Instead of being soft, spongy, vascular, incomplete in form and easily cut, he has seen tibiæ and femora, or at least the middle parts of them, solid, compact, eburnated, and not to be broken or divided by a cutting instrument. This lesion appears to him to indicate that an abnormal and hurried activity in the evolution of the bones coincides with the plastic exudations into several organs observed in cases of infantile syphilis.

Lastly, other lesions incident to the second period of childhood, such as white swellings and rachitis, may be referred indirectly or partially to hereditary syphilis. I shall speak further on of this cause, of the manner in which it is to be understood, and of the limits within which its influence is to be restricted.

XI.—*Characteristic General Appearance.*

A child born with the germs of syphilis, and which will present in a short time the most marked manifestations of that disease, may come into the world with every appearance of health and even of a vigorous constitution. This fact is well known; every writer quotes instances, and numerous clinical proofs of it will be met with in the course of this work.

In the generality of cases, however, this is not the usual course of things. From their very birth, and although as yet without any distinctly syphilitic symptoms, the subjects of hereditary taint may often be recognised. There is a certain *habitus*, a general physiognomy, about the expression of which parents already taught by a previous accident of the same nature, or an experienced physician, are rarely deceived. "Jam fatalem typum insculpsit senectus maximè præcox," remarks Faguer; or, as Doublet has more simply expressed it, "they present a miniature picture of decrepitude."

Bertin (page 96), while acknowledging the correctness of this picture, asserts that it is most commonly the portrait of a syphilitic child during the last moments of its life. I cannot join in his estimate of it. There is undoubtedly an aggregate of external characteristics peculiar to the syphilitic cachexia. The emaciation and extreme debility which it induces may, to a certain extent, be compared to the general aspect now in question; but the two conditions, that of the precursory signs of the diathesis and that of its

ultimate effects, are, nevertheless, very distinct. Not only are they separated chronologically by the entire duration of the disease, but well-marked features further distinguish them. The following description will place this beyond doubt.

Next to this *look of little old men*, so common in new-born children doomed to syphilis, the most characteristic sign is the colour of the skin. Trousseau,[1] who has studied it carefully, thus describes it. Before the health becomes affected, the child has already a peculiar appearance; the skin, especially that of the face, loses its transparency; it becomes dull even when there is neither puffiness nor emaciation; its rosy colour disappears, and is replaced by a sooty tint, which resembles that of Asiatics. It is yellow, or like coffee mixed with milk, or looks as if it had been exposed to smoke; it has an empyreumatic colour, similar to that which exists on the fingers of persons who are in the habit of smoking cigarettes. It appears as if a layer of colouring matter had been laid on unequally; it sometimes occupies the whole of the skin, but is more marked in certain favorite spots, as on the forehead, eyebrows, chin, nose, eyelids, in short, the most prominent parts of the face; the deeper parts, such as the internal angle of the orbit, the hollow of the cheek, and that which separates the lower lip from the chin, almost always remain free from it. Although the face is commonly the part most affected, the rest of the body always participates more or less in this tint. The child becomes pale and wan. Though sometimes resembling that of Ephelis, this discoloration is generally much less marked, and would not attract attention if it were not accompanied by a deep pallor of the skin, and were not unequally distributed. It is preceded by a general paleness, which renders its appearance more appreciable; it increases slowly, and requires at least a week for its complete development.

On considering the peculiar nature of this discoloration, the early period of the disease at which it is observed, the puffiness (*the œdema*),[2] the prostration by which it is accompanied, and the rapidity with which, in common with its complications (apparently so deep-seated), it disappears under the influence of anti-syphilitic

[1] Trousseau, 'Gaz. des Hôp.,' 1848, p. 78; and Trousseau and Lasègue, 'Arch. gén. de Med.,' 1847.

[2] Bertin (op. citat., p. 109) has pointed out the coincidence of this symptom with those which may lead us to anticipate the appearance of genuine syphilitic lesions

treatment, I was led to ask myself whether this condition, so distinct from the manifestations of syphilis properly so called, might not depend upon the chloro-anæmia, the existence of which Ricord has pointed out as coincident with the first outbreak of secondary symptoms, and of which every writer on syphilis has seen numerous instances. There is surely no reason why the same specific cause should not produce the same effects at whatever age it may be in activity. The semeiological evolution of syphilis is so exactly similar in new-born children and in adults, that it would not be surprising to find this characteristic also common to both. We should rather have cause to be surprised, I think, if it were wanting in the former, since it so often presents itself in the latter that there is scarcely a physician who has not observed it at the commencement of the disease. It will suffice, however, to have called the attention of practical men to this point. Stethoscopic and clinical examinations, so easy for those who are placed in favorable circumstances, will soon have decided the question. The therapeutical importance which it is capable of attaining sufficiently recommends it to their zeal.

Paucity or tenuity of the hair, the absence of the eyebrows and eyelashes, the scanty development or slow growth of the nails, are generally also seen in cases of this kind, and complete the special physiognomy which they impart to the child.

XII.—*Lesions of the Viscera.*

Exaggerated by the older writers, whose nosological tables had, in the case of every serious disease, a place in reserve for a "*var. syphilitica,*" these lesions have at the same time been more restricted and better studied by modern writers. There exists, in reference to their mode of production, a fundamental difference between the acquired syphilis of adults and congenital syphilis. In the former, the changes in the liver, the heart, the lungs, or the brain, almost always assume the form of tubercles; their progress is slow; they do not appear until a very advanced stage of the disease, and thus belong as much by their date as by their character to the tertiary period. The new-born child, on the contrary, presents them very early, often even as the first symptoms of the affection of which it has received the germ *in utero*. In infants also, excepting when occurring in the liver, they assume, for the most

part, the suppurative type, and their progress is extremely rapid; which characters seem to class them amongst the affections of the secondary stage.

The frequency of visceral lesions in infants is now beginning to be appreciated; but they are still far from being recognised as often as they really exist. The more our means of diagnosing them in the living subject are improved, the more we shall have opportunities of multiplying clinical instances of them. By their aid we shall be enabled to explain more rationally the debility and deaths so common in children affected with syphilis, consequences hitherto regarded as the direct effect of the poison on the radical powers of the economy. Let us hope that recent investigations, by showing that the causes of death are to be sought rather in certain local lesions than in an undefined influence, will not only have contributed to facilitate the diagnosis, but will open out new and fruitful views for therapeutics.

A. *Lesions of the lungs.*—Without pretending to deny the existence of any of the syphilitic pulmonary affections, of which Lagneau, junior,[1] has recently enumerated as many as seven kinds, we shall only have to describe here, for fear of transgressing the limits of our subject, the special change in the lungs the description of which Depaul[2] submitted, in 1851, to the judgment of the Academy of Medicine. It consists in the presence of indurations of a density similar to that of the liver, and of varying number and volume, in the parenchyma of the lung. Some of these occasion an appreciable prominence of the pleura; and the organ then presents at the corresponding point a yellowish colour, quite different from that of the rest of the surface; this is the first stage of the disease.

At a more advanced period, the indurated nodule becomes softened; on being cut open, it is found to be composed internally of a compact yellowish-gray tissue, in the centre of which is a cavity containing a sero-purulent fluid, more or less abundant according to the size of the induration. The microscope reveals in it the most marked characters of pus.

This purulent fluid, which was at first infiltrated or agglomerated

[1] 'Des mal. pulmon. causées ou influencées par la Syphilis,'—'Thèse de Paris,' 1851.

[2] 'Séance de l'Acad. de Méd.,' April 29, 1851; 'Gaz. Méd. de Paris,' 1851, p. 392.

in small cavities, afterwards runs together so as to form collections of considerable amount.

These indurations are, in general, already developed at the time of birth; they run their course rapidly and, it may be said, with certainty, to an early and inevitably fatal termination. The symptoms which result from them are those of lobular pneumonia, to which this form of disease has, moreover, very close relations.

Syphilitic abscesses in the lungs of new-born children generally coincide with other lesions. Of these, some are manifestly syphilitic, whilst others are of a doubtful character, and it must be confessed that the latter are those the existence of which has been most frequently pointed out. Thus Depaul has observed, in several cases of this disease, suppuration of the thymus gland, pemphigoid bullæ, and an "increase in the volume of the liver."[1] Paul Dubois and Cruveilhier have shown that pemphigus is often met with in new-born children who sink under these abscesses of the lungs. There are cases on record, however (and Depaul's Memoir, read before the Academy of Medicine, July 22d, 1851, furnishes such an instance), in which the pulmonary induration was the only visceral lesion. In Depaul's case it is specified that "the liver, the spleen, and the brain were examined without the least change being discovered." Dr. Ch. Teirlinck[2] also relates the history of a woman, the subject of numerous flat pustules, who was delivered at seven months of a very small old-looking child, which lived only four hours. It had, in the left lung, a single indurated nodule, from seven to eight millimetres in diameter, in which the microscope revealed the presence of pus-globules. No other lesion, whether upon the skin or in the viscera of the different cavities, could be discovered by the closest examination. In the face of these facts, it cannot be assumed that this affection of the lungs is the ultimate manifestation of a cachexia which has disorganised all the viscera essential to life. On the other hand, in a certain number of cases which are doubtless the minority, the presence of pustules and of mucous patches, the evi-

[1] Does not this brief mention point to the specific induration of the liver, a disease which was probably not known to Gubler, or at least not well described by him until after the appearance of Depaul's work? There is reason to think so.

[2] 'Annal. et bul. de la Soc. de Méd. de Gand,' 1852, p. 93.

dent and unequivocal signs of constitutional syphilis, has been recognised.

Frequently, in fact, the parents have undeniably been a prey to the syphilitic diathesis. Depaul has even demonstrated, in reference to this point, that the pulmonary affection may have resulted from the most varied modes of origin. Thus he has once observed it in a child whose mother was healthy, but whose father had contracted an indurated chancre two months before the date of impregnation. In a second case both parents had been affected with syphilis. In a third, the mother had contracted syphilis in the second month of pregnancy. In the case related by Teirlinck the existence of constitutional syphilis in the mother was indisputable, but it could not be determined whether she had contracted it before conception or only afterwards.

B. *Suppuration of the thymus gland.*—Paul Dubois has connected his name with this curious affection by the conscientious researches which he published in 1850[1] on the anatomical changes to which it gives rise. Having seen children, whose parents had had syphilis, sink in a few days after birth, without being able to explain this termination by the severity of the eruptions on the skin or mucous membranes, he was induced to subject their viscera to a more strict examination than is generally made, and thus frequently succeeded in detecting the existence of the affection of which we are now speaking.

The affection almost always presents itself in the same form. Externally, the gland offers nothing extraordinary in respect either to its colour or its volume; but on squeezing it after an incision has been made into it, small drops of a semi-fluid, yellowish-white matter, having all the appearances of pus, are easily pressed out. Donné, to whom Dubois sent a little of this fluid for analysis, recognised all the characters of genuine pus in it.

In all the cases quoted by Dubois, the pus appeared to be disseminated through the tissue of the organ and not collected in distinct cavities. Depaul observed this distribution in one case, but in a second he[2] remarked that the gland presented a small cavity in each of its lobes, filled with grumous, yellowish,

[1] 'Gaz. Méd. de Paris,' 20e année, p. 392.
[2] Mémoire cité, obs. 1.

and rather thick matter. In this child the thymus gland was somewhat larger than usual.

Of five children affected with this form of disease, the history of whose cases has been given by Dubois and Depaul, one was born dead; two lived a few minutes only; one, six days, and one, eight days.

In two, the lungs were found in a state of suppuration; in a third, "the lower lobe of the right lung was unusually hard;" in a fourth, the lungs presented small ecchymoses in the form of red stains.

In four out of the five cases, unequivocal and generally well-marked traces of pemphigus were observed. No other symptom allied to the ordinary phenomena of syphilis was met with, either in the skin or mucous membranes of these children.

As for the origin of the disease, in four of the cases syphilis existed either in the father, or in the mother, or in both, for a longer or shorter time before conception. In the fifth case, no information could be obtained concerning the previous health of the parents.

Dubois points out, for the guidance of future observers, a possible cause of error in these researches. During the greater portion of fœtal life, the thymus gland secretes a whitish viscous fluid, which might, with a little want of care, be mistaken for pus. But this fluid has a white, opaline, transparent appearance, which should prevent its being confounded with pus properly so called, as the latter is characterised by its creamy consistence, yellow colour, and opacity.

According to this author, the production of pus, under such circumstances, would be the result of inflammation of the ducts and reservoirs of the organ, as described by Sir A. Cooper. The particular seat and mode of origin of the suppuration appear to him to be proved by the usual distribution of the purulent matter, and by its appearing in small drops on the surface of an incision, when sufficient pressure is made.

c. *Lesion of the liver.*—It is sufficient to glance through the *Aphrodisiacus* to see how important a part the earliest writers on syphilis assigned to the liver, which they regarded not only as the principal seat, but even as the generating organ of the "French disease." In our days these ideas have been completely abandoned; and possibly we have gone too far in the opposite direction. During a long period but very few cases were recorded in which deposits in the liver

were found in the subjects of tertiary syphilis. Such instances were looked upon as extremely rare; and the existence of a common affection of the liver, allied to syphilis, was no longer believed in, when Gubler[1] drew attention to this point by giving pathological demonstration of the occurrence of a peculiar change in that organ in a great number of new-born children affected with hereditary syphilis. More fortunate than Depaul, he had no difficulty in procuring admission for this new affection amongst the least disputed effects of syphilis; the instances of the disease being so numerous and convincing that there was not a moment's hesitation about the position to be assigned to it.

When the lesion has reached its maximum, the liver is sensibly hypertrophied, globular, and hard. It is resistent to pressure, and even when torn by the fingers its surface receives no indentation from them. The elasticity of the organ is such, that if a wedge-shaped piece taken from its thin edge be pressed, it escapes like a cherry-stone, and rebounds from the ground. When cut into, it creaks slightly under the scalpel.

The distinct appearance of its two substances has completely vanished. On a uniform, yellowish ground, a more or less close layer of small, white, opaque grains is seen, having the appearance of grains of semola, with some delicate arborescences, formed of empty blood-vessels. On pressure no blood is forced out, but only a slightly yellow serum, which is derived from the albumen.

Gubler has only three times seen the change carried to this extent. It is most frequently much less marked. Thus, the tissue of the organ is firm, without having that extreme hardness and yellow colour which might admit of comparison to some kinds of flint. The interior of the organ presents rather an indefinite colour, shaded with yellow or brownish red, more or less diluted; but in no part is the parenchyma quite healthy in appearance.

Again, the change may be found in circumscribed parts only; Gubler has seen it confined to the left lobe, to the thin edge of the right lobe, and to the *lobulus Spigelii*. He ascertained by injections that, in the indurated tissue, the vascular net-work is almost impermeable; that the capillary vessels are obliterated, and that even the calibre of the larger vessels is considerably

[1] 'Gaz. des Hôp.,' 1848, Jan number; and 'Gaz. Méd.,' 1852, p. 262.

diminished. Microscopical examination enabled him to discover the cause of this disposition by revealing in the altered tissue of the organ, in every degree of change, the presence of fibro-plastic matter, sometimes in considerable, sometimes in enormous quantity. In the portions intervening between the diseased parts, the cells of the hepatic parenchyma maintain all the characteristics of the normal condition.

The physical consequences of the deposit of these elements are an increase in the volume of the liver, the compression of the cells of the *acini*, the obliteration of the vessels, and the consequent cessation of the secretion of bile. In all the subjects examined after death by Gubler, he always found the bile in the gall-bladder of a pale yellow colour and very sticky, that is to say, very rich in mucus and very poor in colouring matter.

The blood had almost always undergone a marked change, its solid portion having the consistence of soft currant jelly and the fluid portion being unusually abundant. In one subject this change coincided with an extreme discoloration of all the tissues and with innumerable ecchymoses. In one case the lungs presented the characters of acute pneumonia, and in two that of chronic or pancreatiform pneumonia.

Lastly, the concomitant syphilitic lesions consisted in patches of psoriasis, pustules of lenticular ecthyma, and of deep ulcerative ecthyma, mucous patches, fissures at the circumference of the natural outlets and in the folds about the joints, and inflammation of the nasal fossæ, with purulent and sanguineous secretion.

The syphilitic nature of the hepatic affection is rendered very probable by the constant coincidence of some of the preceding symptoms in all children in whom it has been observed. But what completes the proof is, that Gubler has not met with it in any other general disease except congenital syphilis. Trousseau, Heurteloup, Cullerier, Depaul, Lenoir, and Lebert have also seen instances of it. In eight of the nine cases observed by Gubler, the external manifestations of constitutional syphilis were so well marked that the diagnosis was quite satisfactory. It is to be regretted, however, that it has not, in general, been possible to obtain information as to the condition of the parents. This gap does not appear to me to offer a valid objection to the syphilitic nature of the hepatic affection; but information of this kind, if sufficiently exact, would have thrown much light upon the special ætiological conditions under

which it is produced, a really important point in its history, and one which has hitherto remained very obscure. In two patients under the care of Cullerier, it was thought that infection and conception must have occurred about the same time, since they were covered with secondary eruptions in an advanced stage. This circumstance, however, constitutes, after all, only a probability.

Lastly, the induration of the liver may be developed during intra-uterine life. Desruelles and Cazenave have each seen its characters well marked in a child which died directly after birth.

According to Gubler, this lesion, analogous to syphilitic sarcocele or to the subcutaneous indurations known under the name of "gummy tumours," belongs to the tertiary class. Not that he had observed, coexisting with it, other tertiary symptoms properly so called. All the symptoms, on the contrary, belonged to the secondary phase of constitutional evolution, though to its later manifestations. Moreover, other infantile visceral lesions, which may fairly be ranked with that of the liver, also present the same coincident symptoms.

The signs of this affection are the more difficult to recognise, inasmuch as they generally precede by only a few days the fatal termination which is its usual consequence. The little patients moan and throw their legs about incessantly, as if in much pain. Vomiting and diarrhœa, or constipation, supervene; the abdomen becomes tympanitic and tender on pressure; the pulse quick and small; the expression of the face is changed, and death occurs two or three days after the first appearance of the symptoms.

It is a very remarkable fact that, notwithstanding the extent and degree of the disease, even when the whole of the liver is invaded by the induration, there is never any jaundice. Gubler states that he has not seen a single instance in which that symptom appeared.

In special cases, where there is reason to suspect it, palpation and percussion may enable us to recognise the syphilitic induration of the liver, by revealing an increase in the volume and density of the organ. Portal had already called attention to this symptom, and well described the manner of ascertaining its existence.

Gubler states that he once saw this condition accompanied by anasarca of the lower extremities and part of the trunk. But arguing that, if it had depended upon obstruction of the circulation in the vessels which traverse the liver, serous effusion into the peritoneal cavity must also have been present, he attributed it

rather to the state of the blood, and to the profuse diarrhœa which had occurred.

We shall have to speak hereafter of the therapeutical measures recommended by Gubler for subduing this formidable degeneration, when its existence is suspected. It is sufficient, at present, to state that in a new-born infant affected with syphilis, which afterwards sank under an intercurrent disease, Cullerier found upon the liver a fibrous patch, a kind of cicatrix, which appeared to him to have resulted from plastic infiltration of this kind. The child had been cured of syphilis by the administration of the proto-iodide of mercury.

Although Gubler has carefully studied the special change in the liver which coexists with syphilis, he has not assigned any distinct place to that condition among the successive phenomena of that affection. According to him, it is simply a lesion of the tertiary order. It is, however, one of the first symptoms, in point of time, in new-born children, and he himself admits that no tertiary phenomena, properly so called, are observed to coexist with it; and further it is proto-iodide of mercury and not iodide of potassium which has been found to be the specific for it! Are these considerations sufficient to gain acceptance for the very different interpretation of the same lesion proposed[1] by myself? In my opinion, the induration of the liver in new-born children is exactly analogous to the induration of a chancre in the adult. It is due to the transmission of the poison furnished by the blood of the mother, determining in its course the same organic reaction, of which induration is the expression, which the poisonous pus absorbed during coitus induces around the chancre, and then in the first lymphatic gland which it traverses. On this theory—and according to my observation such is the fact—induration of the liver ought not to occur when the infection proceeds from the father. The hypothesis must of course be tested by future observation of facts. I shall abstain for the present, therefore, from forming any definite opinion as to its value. Strong probabilities, however, exist in its favour, from the very great similarity which sight, touch, and even microscopical examination reveal between the change of texture which constitutes this condition of the liver and the induration of primary chancre.

[1] 'Gaz. Méd. de Paris,' 1852, p. 312.

D. *Peritonitis.*—Simpson[1] has seen several cases of peritonitis prove fatal in children whose mothers had presented symptoms of constitutional syphilis. He was led, in consequence, to regard this form of inflammation as a by no means infrequent result of syphilis transmitted by the mother.

Gubler observed in some of the children affected with induration of the liver evident traces of inflammation of the peritoneal covering of that organ, and thus the opinion of Simpson acquires fresh weight. It is still, however, an open question whether the two lesions may exist separately, or whether, in the cases which Simpson has recorded, a certain degree of induration of the liver coexisted with the inflammation of the peritoneum, but escaped notice.

[1] 'Edinb. Med. and Surg. Journal,' No. 137, p. 19.

CHAPTER II.

PROGRESS OF THE DISEASE.

Let us now examine infantile syphilis without reference to the lesions which it engenders and solely as regards its evolution.

The period at which each symptom usually appears has already been pointed out, and the reader is already familiar with the situation and relative frequency of each. Nothing more remains, then, but to study the affection in itself, in its first outbreak, its progress, its relapses separated by intermissions more or less complete and of longer or shorter duration, and in its most remote consequences. This will be the object of the following chapters.

I.—*Period of its appearance.*

The first point to be determined is this: *May a child present, at birth, symptoms of constitutional syphilis?* Assuredly, if there be a problem easy to solve, and one upon which the most opposite theories may meet without clashing, it is the one I have just proposed. A mere question of fact, facts are sufficient to decide it, and they ought, as it appears to me, to have already placed it beyond doubt. Yet even on this point the most marked differences of opinion are still met with. This will be sufficiently proved by stating that, while Ricord[1] "denies that a child may be born with constitutional symptoms," Rosen[2] says, "that he has never seen any children except such as were affected from birth."

I can well understand that critical observers should refuse to admit as proofs of syphilis, with Doublet, a steatomatous tumour at the canthus of the eye, or a chancrous ulcer on the fourchette; with

[1] These are, at least, the words imputed to him in the 'Gaz. des Hôp.,' v, 1846, p. 13.

[2] Nils Rosen de Rosenstein, 'Mal. des Enf.,' p. 540.

Cullerier, cauliflower excrescences; with Gilbert, a small fringed excrescence near the commissure of the vagina; or the *semi-coction* of Fallopius, or the premature senility of Faguer.[1] But there is no lack of well-authenticated cases, in which symptoms were present at the time of birth, having all the characters of the most distinct constitutional lesions. I have already quoted one incontrovertible instance from Rondelet. Doublet[2] saw a child which was born with very distinct blackish pustules. Gilbert[3] speaks of a little boy "who presented at the time of birth flat pustules, of a reddish-brown colour, scattered over the back, buttocks, and thighs, and who died some days afterwards." Another, observed by the same author, "presented at birth pustular spots on the buttocks and thighs:" his mother was the subject of intense periosteal pains.

Guerard[4] delivered a lady of a child "covered with yellow patches, which all who saw them recognised as syphilitic." Landman[5] has published the history of a child which the midwife observed to be born with copper-coloured spots on the body and pustules on the *labia majora*. Sir A. Cooper states that "he has seen several children born with a copper-coloured eruption, evidently syphilitic, on the palms of the hands, the soles of the feet, and the buttocks."[6]

But this is not all, as the syphilitic diathesis may have already produced, *in utero*, perfectly distinct external manifestations of its existence. If a child be born dead, and its body present traces indicative of syphilis, the appearance of these lesions must evidently have preceded birth, since their very development itself necessarily presumes vitality. And such instances are on record. Cullerier[7] mentions a still-born child, which came into the world covered with venereal pustules. Deville[8] saw in a still-born child well-marked mucous patches, in great number, on various parts of the body. A woman, the patient of Simon,[9] had contracted venereal disease, and from that time, in each pregnancy, she was delivered, about

[1] 'Thèse de Paris,' 1783.
[2] 'Essai sur la Mal. vénér. des nouv.-nés.,' Paris, Nov., 1781.
[3] Bertin, op. citat., pp. 100 and 101.
[4] 'Journ. de Siebold,' l. c.
[5] 'Ann. Méd. de la Flandre occidentale,' March, 1852, p. 410.
[6] 'The Lancet,' vol. iv, 1825.
[7] *See* Bertin, op. citat., p. 99.
[8] Bouchut, op. citat., p. 859.
[9] 'Journ. des Conn. Méd.-Chir., 1835, p. 257.

the seventh or eighth month, of a dead child which bore evident marks of syphilis.

But however incontestible the fact of this mode of evolution may be, it is not the less exceptional. As a general rule, it is only after a certain period of apparent good health that the child begins to present signs of the diathesis communicated to it before birth. All writers are agreed on this point, and explain this incubation in the same manner. The more or less irritating effect of external agents and the incipient exercise of functions previously dormant constitute for the new-born child so many causes of evolution. These agencies may well be compared, in reference to the nature of their influence, to those which induce in the adult the more or less early outbreak of constitutional symptoms after the cicatrization of a primary chancre. They are not, as we have just seen, absolutely indispensable for the production of such symptoms, since the child, on coming into the world, sometimes presents the symptoms referred to. In point of fact, however, a certain number of days, at least, does almost always elapse between birth and the first constitutional manifestations.

What, then, may be taken as the mean term of the duration of this latent period? It is not a motive of simple curiosity which induces the practitioner to make this inquiry. He must ascertain the period in order that he may know at what age he is justified in reassuring the parents concerning the health of their child; until what age it is necessary to watch for the possible development of symptoms; with what reservations it may, at different periods, be intrusted to a nurse, and whether he must always wait for the outbreak of symptoms in the infant, before submitting the parents to an anti-syphilitic treatment for the sake of future conceptions, &c. In short, the determination of this question, without constituting a necessity of the first order, is at least one of the desiderata which the specialist most frequently feels in his connexion with delicate family affairs.[1]

[1] I may illustrate, by citing the error of a man of talent, how great is the necessity of having precise notions on this point. In a discussion concerning the contagiousness of syphilitic lesions in infants at the breast, Henriette, wishing to show that the foundlings of the Brussels Hospital are not apt to infect the nurses to whom they are given to nurse, says, "These children remain eleven full days before they leave the hospital. The germs of secondary syphilis would not continue thus for eleven days in the latent state without being even suspected." ('Journ. de Méd., de Chir., et de Pharm. de Bruxelles,'

The testimony of authorities and that of facts, each consulted separately, both agree in an almost identical solution of this point. Thus:

Nisbet states that the symptoms appear a fortnight after birth.

Doublet has never seen the disease fail to break out in a week.

According to Babington (see Hunter's works), it is after a period which generally varies from three to five weeks that the health of the child begins to be affected.

If we are to believe Gilbert,[1] the eruption usually shows itself at the end of the first, or in the course of the second month after birth.

Trousseau and Lassègue,[2] fix the earliest limit at one week, the latest, and quite exceptional, at seven months. For the great majority of cases they place the outbreak of the symptoms between the first and third month.

Huguier[3] states that the symptoms of syphilis in infants most frequently appear from the third to the twenty-fifth day, or, as he very properly adds, even later.

Simon[4] says that it is from the eighth to the fifteenth day that the symptoms appear.

According to Cristofori, of Bologna, they manifest themselves from the first to the third month; in scarcely any case before one month; in very few after three.

Mahon[5] writes: "These symptoms are generally observed from the fourth to the fifteenth day." Bouchut believes that, "the period at which symptoms of syphilis show themselves in a child which has inherited their germ is *almost constantly from the first to the second month* of extra-uterine life."

Bardinet states that they "develop themselves in general, during the second month, sometimes sooner, sometimes later, but without varying much from this period. He has never observed them at the time of birth, nor during the first two weeks after it.

March, 1853, p. 317.) We shall see directly how fallacious would be the security based upon the consideration of a period of health so restricted as that with which Henriette is satisfied.

[1] 'Maladies de la Peau,' p. 475.

[2] 'Arch. gén. de Méd.,' October number, 1847.

[3] 'Séance de l'Acad. de Méd.,' July 13th, 1840.

[4] 'Journ. des Conn. Méd.-Chir.,' 1835.

[5] 'Mal. syph. des nouv.-nés,' p. 409.

Being anxious to throw upon the solution of this important question the valuable light of statistics, I have collected 158 observations in which the date of the first appearance of the symptoms has been carefully noted. Of these cases, 53 were collated by Rizzi;[1] 24 by Bertin; 22 by Bardinet; 5 by Cazenave; 2 by Egan; 2 by Bouchut; 1 by Mahon; 1 by P. Dubois; 2 by Cullerier; 1 by Galligo; 5 by Potton; 1 by Campbell; 3 by Vassal; 1 by Duchateau; 1 by Gilbert; 2 by Gauthier; 2 by Coles; 1 by Vidal; 1 by Troncin; 2 by Cussack; 1 by Trousseau; 2 by Putegnat; 5 by Lallemand; 5 by Doyon and Dron; 4 by Bassereau; 2 by Bergeret; 2 by Dubreuil; 1 by Hunter; 1 by Rayer; 1 by Boehr; 1 by Baumès; 1 by Semanas.

Without entering too minutely into details which would place us in danger of losing the fruits of this investigation, I shall simply group the figures between the chief limits. Thus, of these 158 cases, the disease showed itself:

Before the completion of one month after birth . .	in 86
Before the completion of two months	in 45
Before the completion of three months	in 15
At four months	in 7
At five months	in 1
At six months	in 1
At eight months	in 1
At one year	in 1
At two years	in 1

Thus 131 children out of 158 presented evident symptoms of syphilis before the end of the second month. This is the most practical result of this summary. And, on examining the cases in which still more exact information has been given by the authors, we learn that, of the 131 children, 110 had symptoms before the end of six weeks, and 86 before the end of the first month.

In a series of 105 cases in which the date has been the object of still more minute inquiry, it was found that 45 had undergone the first effects of the disease before the end of the thirtieth day after birth. Of these 45 subjects 24 were attacked before the fifteenth, and 10 before the eighth day.

My readers will easily find in this table the indications they require, and will not fail to remark: 1, That the greater proportion of outbreaks of constitutional syphilis in new-born children occur

[1] 'Gazetta Médica di Milano,' April, 1846.

before the completion of the first month of their existence.[1] 2, That when the third month is once past, there is no longer much probability that any symptoms of this kind will manifest themselves.

II.—*Relation of the progress of the disease to its particular mode of origin.*

A child born without any original taint accidentally contracts a primary chancre. It undergoes, in this case, the successive phases and the development of the diathesis, in exactly the same way as an adult who had received the infection by coitus. Like the latter, it may escape the diffusion of the poison in the organism, and come off with only a local sore of some weeks' duration. If, on the contrary, the constitution become affected, it is observed that the periods which indicate the progress of the disease succeed each other a little more rapidly in it than in the adult; a circumstance sufficiently explained by the superior activity of the functions, especially of the circulation, at an age when growth gives to them all an impulse out of proportion to that which they will ultimately retain.

When, instead of a primary chancre, the disease in the new-born child results from contact with a *congenital lesion*, its general effects are produced still more rapidly. In these cases, the interval which occurs between the deposition of the infectious matter and the appearance of the symptoms on other parts of the body is so short that, when these symptoms are themselves of a contagious nature, such as mucous tubercles, there seems reason to believe that they have been produced by the direct contact of the part on which they show themselves with the individual who has been the agent of contamination. But when it is a dry eruption, a roseola, which appears, we can no longer have recourse to this explanation; and we must then admit as the sole cause of its early appearance the extreme rapidity

[1] It had been my intention to give more precision to the language of these figures by ascertaining *the mean* of the period of incubation. I had, therefore, divided the total number of days by the total number of cases. But this result is entirely fallacious on account of the excessive influence which, in a calculation so drawn up, is exercised by a few very rare cases occurring at a long date. Thus it is only to show the errors to which such calculations lead that it is now stated that the mean duration would be forty-four days!

with which the germ, at first local, invades all the organic systems in the child.

When the disease, transmitted in this manner, passes successively from one individual to the other, is it true, as Colles[1] says, "*that a third child will be infected more quickly than the second, the fourth more quickly than the third, &c.?* Nothing in my observations has confirmed this opinion, a kind of hyperbole, as I believe, intended even by its author solely to exhibit in more striking colours the danger of endless transmission presented by the venereal affections of infants at the breast.

Is it true, as the same writer affirms, that the disease, when arising from a congenital source, and afterwards communicated to several individuals in succession, gives rise to symptoms which are exactly similar in all? This peculiarity, which, according to him, is one of the best distinctive traits between syphilis acquired by chancre and that propagated by secondary congenital lesions, has only an appearance of truth. If it appear at first sight tenable, it is only because most of the constitutional symptoms in infants, developing themselves under similar structural conditions, assume forms and present a physiognomy which are almost identical.

Lastly, is it true, as asserted by Egan,[2] that if an adult have contracted the disease from an infant which was born with it, the ravages will be more serious in him, the affection more obstinate, and the relapses more frequent than if he had acquired it in the usual way? Nothing authorises us to think so; and I believe that the undoubtedly greater capability of communication from individual to individual, in such cases, has erroneously been regarded as a greater severity of the disease in the adult. And, further, may not the insidious manner of its development, affording the patient neither data nor warning, often enable it to remain longer unrecognised and carry on its ravages with impunity? It appears only too reasonable to believe so.

But these distinctions between acquired congenital syphilis and syphilis from the diffusion of the chancre-poison are neither the most important nor the most difficult with which we have here to deal. Another much more complicated question presents itself, when we pass on to the determination of the conditions of the evolution of

[1] Ranking's 'Abstract,' p. 285.

[2] 'Dublin Quarterly Journal,' 1846, p. 348.

hereditary syphilis, properly so called. I shall state it in these terms:

Does the evolution of symptoms in the infant differ according as it has received the germ of the disease by conception or during pregnancy; and, if it differ, in what does this difference consist?

The almost unanimous agreement of authors seems to furnish an affirmative solution of the first of these questions. Consult special treatises, question the men whom experience has rendered most competent, and you will find that all of them entertain the idea of a fundamental difference between the effects of syphilis, according as it is communicated to the embryo at the time of its formation or subsequently.

Several dogmatic writers have even distinguished these two varieties in their works by devoting special designations to each. Cazenave[1] calls the former *hereditary*, reserving the name of *congenital* for the latter. Mahon[2] "assumes that fœtuses born before the full time, with a dry and wrinkled skin, are those which have been infected in the very act of conception; and that those infected by the humours of the mother are often free from symptoms at the moment of birth." According to Fabre, J. L. Petit asserts that, "If the father or the mother have not contracted syphilis until after conception, it is certain that the child will be less affected than in the other cases, because the seed from which they have been formed not being corrupted, the germ of the disease cannot have taken such deep root."[3] Baumès writes:[4] "But it is especially when the germ of this horrible malady (congenital syphilis) is hereditary, that nutrition, the basis of all existence, is arrested, changed, vitiated at its source," &c.

I have been anxious to ascertain whether there is, in this general belief, anything more than one of those inductions which, in the natural sciences, so easily pass for truths simply because they are not improbable. But this investigation presented more than one difficulty. Could it bear upon the condition of children born of a mother infected before pregnancy? No; for here the influence of a vitiated ovum was conjoined with that of contaminated blood serving as an aliment for the fœtus, so that it would afterwards

[1] 'Traité des Syph.,' p. 137.
[2] 'Mal. syph. des nouv.-nés,' p. 407.
[3] 'Traité des Mal. vénér.,' p. 141.
[4] Op. citat., vol. i, p. 173.

have been impossible to assign to each of these two causes the part logically due to it. The hypothesis to be examined puts forward two facts: one, the great malignity of the diathesis in an infant infected by conception itself; the other, its comparative mildness in an infant infected only by the blood which it receives from its mother. It was necessary, therefore, for a correct estimate of its value, to confront these two categories of cases, confining ourselves, of course, as regards the former, to those in which the *influence of the father* was the sole cause. This double successive enumeration will no doubt appear fastidious; but the object was to substitute reality for probabilities, and it will easily be understood that, to obtain this result, facts rather than theoretical presumptions were required.

1st Series, *showing the evolution of syphilis in children who receive it from the father only.*

Boehr's Case. The father had been treated constitutionally.—The child continued healthy for three weeks: it was then attacked by corroding ulcers which increased rapidly, by coryza, and copper-coloured spots. These symptoms made fearful progress, until mercury was administered, which arrested them, but the child had subsequently two relapses.

Swediaur's Case. The father had undergone treatment.—At the end of some weeks the child had a syphilitic ulcer in the throat, of which it recovered.

Guérard's Case. The father had undergone treatment.—The child came into the world covered with dull yellowish spots, and with ulcers on the fingers and toes. It was cured by the prompt administration of mercury.

Bassereau's Case. The father had undergone treatment.—On the third day, the child had copper-coloured spots over the whole body; on the fourth, intense coryza. It died on the fifteenth day.

Troncin's Case. The father had been only partially treated.—The child was born healthy. At the age of three weeks it was attacked by a well-marked syphilitic pustular eruption, and died at eleven months.

Haase's Case. No information as to the treatment of the father.—The child was born with imperfect development and senile physiognomy, and separations of the epidermis in the palmar and plantar regions. Immense ulcers covered the buttocks, and appeared in the throat, mouth, and nostrils. It died on the twentieth day.

Albers's Case. No information as to the treatment of the father.—The child presented, a few days after birth, several pustules which assumed a manifestly syphilitic character. It died on the ninth day.

Depaul's Case (second). The father had not undergone any treatment —The child died after having breathed twenty minutes. Both lungs,

as well as the thymus gland, presented collections of pus. A pemphigoid eruption covered the palms of the hands and the soles of the feet.

Observ. of Bertin. The father had not undergone any treatment.—At the end of six weeks the child had fissures about the mouth, then ulcerating pustules on the buttocks. It was cured by a mercurial treatment of five weeks' duration.

Observ. of Bertherand. The father had not undergone any treatment.—The child was born at eight months with general pemphigus, it cried incessantly, its features rapidly became changed, it refused the breast, and appeared to be about to die. Fortunately corrosive sublimate was given from the sixth day, and it recovered.

2d Series. Let us furnish at once, with the appropriate details, *the history of mothers who, only infected during pregnancy, have given birth to syphilitic children.*

Gilbert's Case. The mother had undergone a treatment of sixty days' duration in the venereal hospital of Paris.—The child, born at seven months, had, at the end of a month, large, moist tubercular pustules on the scrotum and about the anus. It infected the nurse.

Bertin's Case (second). The mother had undergone a very long treatment with Van Swieten's solution.—The child, born very feeble, had, at three weeks, ulcerating pustules on the buttocks.

Baumès's Case. The mother had undergone treatment by Van Swieten's solution and sudorifics.—The child, born healthy, had, on the eighteenth day, ecthyma on the buttocks, chest, and cheeks. It was cured by mercury, after having infected its nurse.

Dubois's Case. The mother had been but very imperfectly treated.—The child, born prematurely, was lively and well developed; but it bore the first indications of pemphigus, under which it sank on the eighth day.

J. Starck's Case. No information as to the treatment of the mother.—The child, born at the full time and healthy, had afterwards an ulcer on the *velum palati*, and copper-coloured spots on various parts of the body. Nevertheless, its health continued intact until the fifth month, at which date it was seen by the author for the first time. It was cured by mercury.

Depaul's Case. The mother had not undergone any treatment. — The child, born at eight months, sank on the fifteenth day, in spite of the employment of mercury, under syphilitic affections of the skin and lungs. The eruption had appeared two days after birth.

Bertin's Case (first). The mother had not undergone any treatment.—The child was born dead at six months.

Bertin's Case (third). The mother had not undergone any treatment.—She miscarried at four months and a half.

Michon's Case. The mother had probably not undergone any treatment.—The child, born at seven months, lived only three days. It presented at birth mucous patches and reddish brown, copper-coloured pustules on the legs and arms, ulcers on the *labia minora*, and onychia on all the fingers and toes.

The reader has now all the evidence before him. This double series shows him infantile syphilis, first, according to authors, in its most serious ætiological conditions; secondly, in the origin which they regard as the most innocent. He may, by weighing the circumstances and calculating the effect of treatment, whether upon the father or the mother on the one part, or upon the child on the other, draw from this parallel his own conclusion. For myself I am satisfied with having facilitated his decision, and have no wish to urge my own.

If it were necessary, however, to express the opinion which I have formed from the careful comparison of these two series of cases, I should be inclined to conclude:

I. That, in respect to absolute *gravity*, they offer an equality which could scarcely be more perfect, since that of the fathers gives five deaths in the children out of ten cases, that of the mothers four out of nine.

II. That, as regards the *lapse of time* between birth and the first outbreak of the symptoms, the similarity is also nearly perfect. The affections at birth, the incubations of two to three and four days and those of three weeks, are observed, in fact, in almost the same proportion, in the one as in the other category. Yet cases of syphilis evident at birth are sensibly more numerous in children contaminated by the father.

III. That, as regards the *nature* of the symptoms, judged of by their aspect, the resemblance is as exact as possible. Ulcers, copper-coloured spots, mucous patches, pustules, and pemphigus, are met with in one set of cases as in the other. It is to be remarked, however, that abortion or premature delivery is more common in the cases of the second class, in which out of eight cases the child was born at the full term in three only; while the ten cases of the first class present only one miscarriage at eight months. It would seem that syphilitic infection, supervening in the course of pregnancy, causes a more dangerous derangement in the fœtus because it is sudden; and that it is better borne, on the contrary, when the embryo has been, from the first, accustomed to its influence. There would be, as regards prognosis, the same difference, in respect to their gravity, between these two varieties which exists between an acute, intercurrent disease, and a diathesis which develops itself with the individual and weakens him by degrees, but does not kill him suddenly.

IV. That the two kinds of cases equally show the power of mercury to mitigate the affection in the children, when it has been administered to the parents between the date of infection and that of conception or of birth. In each series, we *see*, so to speak, syphilis become more and more severe, according as we pass from the cases treated with mercury to those in which it was given in insufficient doses, and then to those in which it was omitted entirely.

To sum up, I do not wish to deny that the symptoms may not have been a little more early, the derangements a little more severe, and their evolution a little more rapid in the children of the first class. But with two series, realising as these do, if we accept the laws assumed by the authors, the two extremes in respect to gravity, can we expect so slight, so imperceptible a difference? Taking, on the one hand, the cases which they represent as pathogenetically always very serious—on the other hand, those which they announce as constantly mild—ought we to expect that their analogies would be more striking than their differences? The inference to be drawn from this comparison is, if I mistake not, the formal negation of all that has been advanced concerning the great difference of infantile syphilis in connexion with the diversity of its sources.

Moreover, these *à priori* conclusions, the want of solidity of which I have just demonstrated, do not agree, even theoretically, with our ideas of the power of syphilis as observed under conditions which explain the variations of its intensity. If, at the time of conception, the diathesis in the parents was *active* and not *latent;* if it had not previously been combated by mercury; if it was in all the energy of the secondary period; if the child have a lymphatic temperament, or if it present a great resemblance to its infected parent; then the disease will no doubt be more violent than it would be under opposite conditions. It is upon these elements, and not upon others, that the prognosis ought to be founded; but, unfortunately, the generality of recorded cases are not sufficiently detailed to enable us to bring these influences strictly into account and to prove statistically the part played by each of them. It can only be presumed that the reason for the difference of severity in certain cases of congenital syphilis is to be referred to these circumstances rather than to the establishment of the diathesis in the parents before or after fecundation. I will endeavour, however, to determine this point more precisely.

III.—*Relation of the progress of the disease to the period of the diathesis in the parents at the time of transmission.*

Ricord for a long time asserted most explicitly[1] that "tertiary lesions are not susceptible of being transmitted hereditarily, with the specific characters of syphilis, like those which are secondary." But for some years past his convictions in this matter seem to have been on the point of modification by new observations.

"Ricord," wrote Gubler[2] in 1852, "is on the track of a new class of facts tending to demonstrate that individuals affected with tertiary symptoms may transmit them directly to their children." Bassereau,[3] who adopts Ricord's views on all these points, asserts that "new-born children affected with hereditary syphilis always present symptoms of the same kind as those existing in the parents at the moment of fecundation." We may discuss this interesting question, then, without finding ourselves at the outset opposed to the most eminent writer on syphilis of our time.

This proposition, stated in such plain terms by Bassereau, presents nothing repugnant to reason. But a very serious difficulty interferes with its verification by experience. Tertiary affections do not manifest themselves in such marked forms in children as in adults. Affections of the bones, for instance, are so rare in the former that the annals of medicine scarcely offer five or six well-authenticated examples of caries or periostitis. Sub-cutaneous tubercles are less infrequent phenomena; but with the exception of the two cases mentioned by Bassereau, they have not been described with sufficient exactitude to enable us clearly to distinguish them. With respect to ecthyma, it is not nearly so rare, but every one knows that it is a lesion intermediate between the two periods rather than one appertaining strictly to the tertiary period.

There remain, then, the affections of the viscera, the thymus gland, the lungs, and the liver. But is it quite logical to rank them, like their analogues in the adult, in the tertiary phase? They affect, it is true, the same organs. But is their nature the

[1] 'Rech. crit. et expér. sur l'Inocul.,' 1838, p. 160 (note).
[2] 'Gaz. Méd. de Paris,' 1852, p. 292.
[3] Op. citat., p. 540.

same? I think not. In the adult, the affection consists essentially in tubercles which are at first hard and crude, and do not soften until a much later period. These tubercles occur in the heart, the brain, the muscles, and the sub-cutaneous cellular tissue, as well as in the lungs and liver. They do not supervene until after the succession of a great number of superficial syphilitic manifestations. In the new-born child nothing similar occurs. In them the engorged point results, not from a tubercle deposited between the meshes of the normal tissue, but from a simple congestion of that tissue itself. No sooner is this nodule formed than it begins to suppurate. The seat of these lesions is exclusively in the organs to which extra-uterine life imparts new functions. In short, they appear very seldom indeed as the ultimate expression of a diathesis which has reached its highest point. These cases are, on the contrary, remarkable for the absence of the profound lesions which, in the adult, are the almost necessary accompaniments of visceral tubercles, and that to such an extent that this absence of concomitant signs has led some to doubt altogether the syphilitic character of the visceral lesions of new-born children.

Whatever may be, in other respects, the proper place of these lesions in the chronology of syphilis, it none the less results from what has just been stated that tertiary symptoms are rare in new-born children; and, further, that the semeiological diagnosis of them is subject to controversy. Thus it becomes necessary to multiply the means of control offered by experience and to examine two distinct classes of facts, to know—1. Whether children, the acknowledged subjects of symptoms assumed to be tertiary, had as parents individuals who had, at the moment of transmitting the disease, reached the tertiary period; 2. Whether parents, the acknowledged subjects of tertiary symptoms at the same period (a thing much more common and easy of determination), have produced children presenting symptoms which could be classed in the same category.

As regards the first question, Bassereau[1] has quoted two cases, of which the first appears entirely conclusive.

A man married and had, in September 1840, in April 1845, and in January 1849, three children. The first presented only coryza and copper-coloured papulæ. The second had small sub-cutaneous tubercles, especially on the

[1] Op. citat., p. 541.

lower extremities, which terminated in ulceration. It was cured by the administration of iodide of potassium to the nurse. The third had, on the thirtieth day, a group of large corroding syphilitic tubercles on the posterior surface of the left fore-arm. It perished, the nurse having refused to take the iodide. But the father of these children, attacked by chancres in August 1839, had had successively, mucous patches on the tonsils, in March 1840; a group of dry tubercles on the deltoid, in the spring of 1845; and an exostosis on the right tibia, in the month of November of the same year. His wife did not contract any disease.

Bassereau saw, with Ricord, two children born of the same parents, with an interval of four years. The first, begotten at a time when the father had just been submitted to mercurial treatment for recent syphilis, presented no symptom except syphilitic erythema, under which it sank in a month. The second was attacked by large tubercles, at the mastoid apophysis, near the superior spine of the ilium, and at other points, which ulcerated. This child recovered. But Bassereau does not state, in this case, what had been the succession of symptoms in the father, nor even whether he had had any peculiar to the tertiary period, an omission which deprives the case of all its value.

As regards ecthyma, Beaumès quotes the case of a child which had, eighteen days after birth, numerous pustules of ecthyma which terminated in circular ulcers. But the infection of the father and of the mother dated from the seventh month of pregnancy only. The father had not had any constitutional symptom; the mother nothing but copper-coloured papulæ on the forehead and ulceration of the tonsils. Certainly the want of relation here between the marked tertiary eruption in the child, and the superficial and so recent affection in the mother is very striking.

If suppuration of the lung were to be regarded as tertiary, its ætiology would not go to confirm this law; for in one of the cases of this kind observed by Depaul the infection proceeded from the father, who had contracted the disease only two months before his wife became pregnant, and is specially described as having had at that time *none but secondary symptoms*. In the other case, the disease proceeded from the mother, who had contracted it at the end of the second month of pregnancy, and presented, at the time of delivery, no other syphilitic phenomena than mucous patches in the vulva.

Could pemphigus, then, be accepted as a tertiary symptom? Here again instances of children conceived while their parents were in the secondary phase would not be wanting. P. Dubois has seen fatal pemphigus following infection which proceeded from the mother only, and that not until the fifth month of pregnancy. Galligo has also seen it transmitted to a child by a mother who had secondary symptoms only. Bertherand has seen

general pemphigus in a new-born infant whose father, alone infected, had had no other syphilitic symptom than an *eruption of small pimples* which was cured by a moderate quantity of Laffecteur's syrup.

Lastly, Depaul's first case shows also the existence of suppuration in the thymus gland, although the infection of the mother was quite recent, and had certainly not passed the secondary period.

Let us now enter upon the second question: *The parents being manifestly in the tertiary period, what symptoms will their child present?*—I confess that I have met with only a very limited number of facts bearing upon this point. Here is first a conclusive one in favour of the relation between the symptoms in the parents and those in the children:

A man infected beyond hope of cure[1] married a girl who consented to this marriage, saying that with the money which he brought her she should have the means of getting cured. The young woman was delivered of a child covered with ulcers from which it never became entirely free until sixteen years of age. The mother sank, some months after delivery, under the sequelæ of venereal disease.

That fact was affirmative. Here is a negative one. But let us first call to mind that, although very few in number, the latter have much more weight to disprove the law than the former to confirm it; for, with regard to these, it may be alleged with reason that the resemblance between the symptoms of the father and those of the child may be the result of chance, and does not absolutely involve a physiological necessity.

Madame V—, attacked by secondary syphilis[2] characterised by crusted pustules on the whole body, and periosteal pains which deprived her of sleep, was treated for these affections from the commencement of the seventh month of pregnancy. She was delivered of a weakly emaciated child, which presented at birth pustular spots on the thighs and buttocks.

In conclusion, I have no hesitation in confessing that statistics

[1] Rosen, 'Mal. des Enf.,' p. 540.

[2] Bertin, op. citat., p. 101. Let it not be said that the effect of the treatment had diminished the influence of the disease upon the child. It might render the symptoms less severe in it, but could not substitute secondary for tertiary symptoms. For, as Bassereau remarks, if his law be exact, the child conceived by a tertiary parent is necessarily exempt at birth from the secondary symptoms through which that parent has passed.

furnish as yet only insufficient elements for the solution of this question. It is, therefore, a point still at issue, and it would be premature to attempt to surmise the manner in which the future will decide it. One consideration strikes me, however; and I draw it from experience, and from experience most freely consulted. On examining the cases in which syphilitic parents have had many children in succession, we remark that, even in the absence of any general treatment, the disease affected the earliest most severely, and became ameliorated afterwards in proportion as its victims were multiplied. In the first pregnancy abortion occurs at five months; in the second at a later period. The result of the third is a child at the full term, but weakly and not viable; the fourth child is born with a constitution more capable of resistance. In a similar manner, as regards the severity of the lesions, the symptoms appear earlier and are more serious in a first child, become gradually less severe in the children which follow, and affect the latest born only by comparatively slight and tardy attacks.[1]

But what does this habitual decrease imply except the instability of the hypothesis which I have just been examining? Of course I do not wish to call all syphilis of long standing *tertiary;* for I am well aware that in many individuals secondary symptoms are reproduced, and perpetuated in the same form, without ever vacating the field in favour of deeper changes. But in the end, with the exception of such cases, when the diathesis continues for several years, when it endures without becoming extinguished, then doubtless it is seen to pass to its third period. Then it is, therefore, that it ought, if the hypothesis were exact, to produce in children derangements more and more similar to the lesions characteristic of this period. Yet the contrary occurs! The prognostications of this theory are not fulfilled, since, instead of the progressive aggravation predicted by it, we observe, on the contrary, a gradual diminution of the diathetic impression on the progeny. What is to be inferred from this? At the least, that the observations which appear to confirm the theory are neither sufficiently numerous, nor sufficiently precise to outweigh the considerations which authorise a different solution.

[1] These remarks will be amply justified by numerous observations in the third part of this work.

IV.—*On retarded or masked Congenital Syphilis.*

I have, a little while back, in accordance with the best authorities, fixed at three months the most usual term, at six months the latest term, at which the child pays by specific symptoms the debt contracted in its mother's womb. But the question has not been solved in this manner by all. Some admit a form of congenital syphilis remaining latent during a great number of years, and bursting forth only at adult age. Others believe that the venereal poison, transmitted hereditarily, may, by combining with certain diatheses, produce in the constitution diseases complex and obscure, but real—certain forms of scrofula, for example, or a peculiar kind of debility. Hence arise two distinct questions:

A. *May hereditary syphilis fail to produce its first symptoms until several years after birth?*—If we were treating only of manifestations somewhat retarded, there would be no doubt about this possibility. The table given above shows two cases of syphilis manifested only after one and two years respectively. Bertin[1] mentioned a child born of an infected mother, which presented no symptoms of syphilis until after it had been weaned. Bardinet also relates a case in which the evolution occurred at the fifteenth month. But these are only apparent exceptions; every disease having a fixed period of evolution furnishes cases of this kind; nor could it be otherwise, unless it be assumed that, a morbid cause being given, all possible organisms, under the influence of every imaginable circumstance, undergo and will manifest its effects in precisely the same manner.

But, in the hypothesis which I am analysing, it is no longer the greater or less extension of the period of incubation which is at issue. The limit is not protracted; it is actually carried from one extremity to the other. The suspicion of this diathesis is not confined to infancy; even mature age is involved in it. I have employed the word *suspicion;* but, for such cases, it would be an absurdity. For, from the moment that the idea of hereditary syphilis remaining latent until the age of twenty or thirty was adopted, this dogma might evidently serve as a cloak for all delin-

[1] Op. citat., p. 153.

quents. Sons would then exculpate themselves without ceremony at the expense of their fathers; and, Voltaire's fable becoming true, all the women who happened to infect their husbands would excuse themselves by answering, as was done to poor Dr. Sidrac, that "it was a family disease in them." Raillery apart, the social and moral consequences of such a doctrine are evident enough.

Ricord, so far as I know, has nowhere expressed a very positive opinion concerning this hypothesis,[1] the reason for which I can easily understand. Too enlightened to have overlooked the facts which appear to support it, he is too sagacious to have concealed from himself the objections to which they are all liable. He contents himself with communicating to his pupils the examples which appear to him susceptible of such an explanation, for the purpose of stimulating them to analogous researches. For it is only after very numerous observations that he can and will promulgate the *law*, of which the *outline* only yet exists in his mind.

I can understand his reserve, and I adopt it as my rule of conduct. As all the cases of this kind are liable to be contested, we must wait until their number compensates for their vagueness; we must know how to temporise until, emanating from the most varied sources, and collated under the most incontestible conditions of veracity and morality, they abound, extinguish our just hesitation, and overcome the opposition of the cautious law-givers of science.

It is only, then, for the purpose of contributing to this end, and without expressing either adhesion or dissent, that I present here such facts as are available for the elucidation of this question.

Many of the earlier writers, as Bern, Tomitano, Hunter, Bell, and in our day Baumès and Cazenave, admit general syphilis at the first onset, *i. e.*, constitutional symptoms breaking out in an individual who has not previously had any local lesion by which the contagion could have penetrated from without. But, as regards these facts, we have had hitherto only two modes of proceeding. The positive school denies them, and maintains that the patients have

[1] We find, nevertheless, in the minutes of the Academy of Medicine (sitting of October 8th, 1853), these indications summarily enounced by Ricord in the course of the discussion. "I have," he says, "a young man of seventeen under my care at present, in whom tertiary syphilis, acquired from his parents, did not make its appearance until this age. I have seen subjects in whom hereditary syphilis did not manifest itself before the age of forty."

overlooked or concealed the local lesion which has served as an inlet for the poison. But when men such as those just named believe in the existence of general syphilis at the first onset (vérole d'emblée), is it allowable to affirm that they have always been deceived; that no one of them has been able sufficiently to refresh the memory or to recognise the duplicity of any of his patients to arrive at the true cause?

With the theory of retarded congenital syphilis this difference of opinion would cease. From the moment at which we could accept the real fact of these observations, while rejecting altogether the intrepretation of it, a man in full health presenting symptoms of syphilis, without any antecedent primary lesion, would then be an example of hereditary transmission with prolonged incubation. The infrequency of these cases would be a further argument in favour of the explanation which I propose; for so long an incubation of the congenital poison must evidently be a very rare exception; and reason would here accord with experience, the one to foresee, the other to establish the rarity of such facts.

Cases of this kind are all more or less subject to doubt. This is no reason, however, for leaving them unnoticed. Without taking into account those, yet unpublished, which Ricord possesses, and which will undergo the most valuable scrutiny from his perspicacity, I will enumerate some such.

Nicholas Massa mentions three children, one three years old, another six, and the third eleven, whom he has seen affected with the "French disease." It has already been stated, in the historical notice, what the real value of these facts appears to be.

Balling[1] states that he was consulted about a youth of sixteen, the subject of an ulcer in the throat, of syphilitic appearance, and of caries of the bones of the nose. This youth appeared to be very innocent, and in spite of all kinds of questions and a most careful examination, no personal source of this infection could be found in him. The father confessed that about the time when he begot him he had himself symptoms of constitutional syphilis. The youth was cured by the administration of anti-syphilitic remedies.

Albers[2] probably witnessed similar cases; for he says that in such the constitutional symptoms show themselves in the child at the age of two or three years; he even specifies that this retarded

[1] 'Ueber angeborene und ererbte Syphilis,' l. c., p. 129.
[2] 'Ueber Erkenntniss und Kur der Syphilis.'

syphilis affects chiefly children born of a syphilitic father and a scrofulous mother.

Bell teaches positively that hereditary syphilis may remain latent in the child until the period of puberty, or in the adolescent until the time of marriage or of confinement, circumstances which he regards as a sort of crisis or change, capable of inducing the appearance of these symptoms.

Prieur ('Thesis,' p. 30) says, "The treatment of the parents before and during pregnancy may prevent the constitutional affections from appearing in the new-born child; but they may afterwards show themselves thirty years after birth without the child's having ever had primary lesions."

Friedländer is so persuaded of the reality of this form of disease that he reserves the name of hereditary syphilis exclusively for that "which does not manifest itself until several years after birth, about the age of puberty."

Dr. Gilbert[1] has published the following observation in support of the theory we are now examining:

A washerwoman of Orleans, of bad constitution, but tolerably healthy up to that period, married in 1824. She was delivered at the full time of a male child, which wasted rapidly, and sank on the seventeenth day, with small white pimples around the nails. At the end of a year she had a second child, now more than two years old and healthy.

A short time after having weaned it, she observed three swellings develop themselves upon her own body, one on the left clavicle, the second at the inner edge of the right sterno-cleido-mastoideus muscle, and the third near the elbow on the same side. The first soon suppurated, and the orifice was converted into a large ulceration.

This woman, when the disease had existed five months, came into the hospital. At the spot indicated, an ulcer with red, abrupt edges, and a grayish base was observed. She had, further, a painful node on the left tibia. No trace of primary venereal affection could be discovered on the genital organs of this woman. She asserted that she had never had connexion with any one but her husband, who, by his own account, had never had syphilis before marriage, and had always been healthy since. But she knew that her father had several times communicated the venereal disease to her mother, and that the latter had been suffering from it when she herself was born. Mercurial treatment rapidly effected the cure of the ulcer.

We find also in Rosen[2] the case of a young girl of eleven, fresh as a rose, in whom hereditary syphilis manifested itself in the form of swelling and suppuration

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[1] 'Journ. univ. des Sciences médic.,' t. lv, p. 100.

[2] 'Malad. des Enf.,' p. 843.

of the glands of the neck and of the nose, of caries of the palate, and of corroding ulcers of the face.

The work of Cazenave[1] on syphilitic affections contains two cases of disease called by him *hereditary syphilis*, occurring in two girls, one of nine years old, the other of eighteen, in the latter of whom the symptoms had first shown themselves at the age of ten. They had tubercular and serpiginous eruptions, which had produced serious effects. It was impossible to discover any trace of primary lesions, the existence of which was moreover rendered very improbable by the age at which the secondary phenomena had appeared. The first was cured by the administration of proto-iodide of mercury.

Trousseau has related the history of a young girl of nineteen, in whom he himself observed, in 1826, a chancre in the posterior part of the throat. She had had, at six years of age, exostoses on the legs, and during the six following years nocturnal pains, which did not cease until the appearance of the meuses, and returned afterwards. There was probably, says Trousseau, hereditary or acquired syphilis at the moment of her birth. These symptoms were cured by anti-syphilitic treatment.

Sperino[2] saw a child born of a mother who died of syphilis; this child, previously healthy, though puny and scrofulous, was attacked by ulceration of the palate at the age of eleven years. Treated only with antiphlogistic and anti-scrofulous remedies, the ulcer continued to extend, and after having destroyed the soft palate, it perforated the hard palate. These changes had required two years for their completion. When Sperino saw this child, at the age of thirteen, it was pale, emaciated, had purulent expectoration, almost incessant cough, and fever, with evening exacerbations. He believed at first in the existence of pulmonary tubercles, but auscultation showed that none existed. The syphilitic character of the lesion having been diagnosed, syphilisation was commenced. But in spite of the evident amelioration which ensued, fresh ulcers having appeared in the throat after four months of this treatment, recourse was had to iodide of potassium, which, given to the extent of 630 grains, completed the cure.

To be as conclusive as possible, facts of this kind must fulfil three conditions, which I earnestly recommend future observers to bear in mind. 1. The absence of local venereal antecedents in the subject must be ascertained by a careful examination. 2. The nature of the existing lesions must be shown to be syphilitic, whether by the opinion of competent authorities, or by the curative effect of specific treatment. 3. It must be known, lastly, whether the parents, at the moment of fecundation, were in a condition to transmit syphilis.

It must not be overlooked that, without on that account advancing them as fully conclusive, this triple condition has been fulfilled in some of the observations which have just been quoted.

[1] Op. citat., p. 542.

[2] 'La sifilizzazione studiata qual mezzo,' etc., 1853, p. 454.

B. *Can hereditary syphilis manifest its action by morbid effects other than the characteristic symptoms of venereal disease?*—This question has already been considered in connexion with pemphigus; and this might be done in reference to almost all the diseases of infancy, for there are very few in the ætiology of which syphilis has not been accused of playing a more or less direct part. Doublet attributed to it the induration of the cellular tissue; Astruc, rickets and tabes; Bertin, certain kinds of tetter; Pitschaft, obstinate sleeplessness; Campbell, convulsions; Haase, hemiecrania and hydrocephalus; Lamauve, acidity, apoplexy, and worms; Levret, the dropsies of early age. Lastly, I will complete this list worthily by recalling to mind that Sanchez saw the results of the venereal poison in imperforate anus, hypospadias and even in the green colour of the excrements of new-born children!!!

Fortunately, we are now no longer called upon to discuss the legitimacy of these different connexions. We know, indeed, that the venereal *dyscrasis* never attacks an individual, *à fortiori* an infant, without imparting to its constitution a debility which predisposes it to all kinds of organic or functional affections. Acute diseases occur more readily in it and are more severe; catarrhal fluxes more persistent; diatheses more deeply rooted. But to say that, without having presented a single specific symptom—a mucous patch, or an ulcer—the new-born child may, through the agency of syphilis, be attacked directly by neuroses, pneumonia, or enteritis, is to forget at once the lessons of experience and the laws of analogy.

Some of these opinions have, however, been expressed more explicitly, and call for separate mention on account of the high patronage granted to them. We find, for example, in special treatises, the most general agreement to rank amongst the effects of the venereal poison a chain of symptoms which offer points of close resemblance to scrofulous affections.

Thus Troncin[1] had observed that if a child born of syphilitic parents does not die in coming into the world, it will afterwards have glandular swellings, a large and tympanitic abdomen, and tardy dentition; it will be more liable to rickets, phthisis, and white swelling. If, by careful management, they reach the age of fourteen or eighteen, the complexion becomes pale and the upper lip tumid.

[1] 'De l'Extinct. de la Mal. vénér.,' p. 64.

Puberty often frees the females from this condition, but it may reappear after pregnancy. Tronein adds, "The child born of such a mother will be pale and emaciated; will have difficult dentition, begin to walk late, and be liable to rickets . . . . ."

Mahon, Bertin, and those who have written after them, also do not hesitate to attribute the scrofulous affections of children to the consequences of syphilis in the parents.

Hufeland believes positively in the power of syphilis to produce scrofula in children.

Hey and Rosen have observed that, of the same parents affected with syphilis, at one time scrofulous at another syphilitic children are born.

According to Haase, if the children procreated under these conditions are not *manifestly syphilitic*, they are frequently affected with lymphatic tumours and glandular swellings.

Albers sums up in the following expressive terms his observations of the evolution of the disease in children born of syphilitic parents: "Glandulæ axillares et inguinales tumebant, et habitus scrofulosus sensim se confirmavit." He adds, it is true, this pretended sign which one regrets to find following the above: "Ejus modi adolescentes erectiones tantum experiuntur leves."

Baumès says that "hereditary syphilis tends to impart to the economy a lymphatic or scrofulous bias . . . . to produce in the body the tubercular degeneration which so often shows itself in scrofulous subjects."

But several questions arise here: *In the first place, is there in the parents a certain form of lesion, a certain period of the diathesis, which may more especially give rise to scrofula in their children?* Ricord does not hesitate to point out the tertiary stage as the most active cause of this transmission. According to him, the affections of this phase may produce similar, *i. e.*, tertiary affections in the child. But yet "their specific influence upon the offspring," he writes in the most of his recent works,[1] "appears to go on decreasing until it becomes, at last, only one of the hereditary causes of scrofulous affections."

According to him, therefore, it is not only tertiary lesions, but tertiary lesions *of long standing* which are the usual cause of scrofulous affections amongst the children of parents in that stage.

[1] 'Lettres sur la Syphilis,' p. 249.

Bèaums[1] has brought clinical elements of the highest importance to the solution of this problem. The following is the sum of his observations:

Madame B—, a widow with a sanguine temperament, married a husband with a lymphatico-sanguine temperament. He contracted, while still unmarried, a syphilis which, being badly treated, continued and produced from time to time symptoms in the skin, throat, and especially in the osseous system. Five children were born of this marriage. The first, which was lymphatic, had venereal pustules and ulcers, and sank, about the time of the first dentition, under acute hydrocephalus.

The second, of very sanguine temperament, had, in infancy, a swelling of some of the phalanges of the fingers and toes. She was cured by corrosive sublimate, followed by the use of the waters of Aix, and is now in good health.

The third, highly lymphatic and very delicate, had amenorrhœa, then attacks of hæmoptysis at the age of fourteen; at the present moment she is in the third stage of pulmonary phthisis.

The fourth, a boy, lymphatic, had first moist pustules about the anus. At five years of age he was attacked by white swelling and caries of the knee, and died soon after amputation had been performed.

The youngest, very lymphatic, had, at an early age, swellings and caries in various parts of the body, especially of the elbow and the malar bone.

Madame D—, a widow, sanguine and robust, married a lymphatic husband who, after a chancre contracted ten months before marriage, continued to have periosteal pains and a syphilitic eruption on the forehead and hairy scalp, which symptoms disappeared and reappeared at intervals. He married in this condition, which continued for nearly eight years, at the end of which time he died of chronic pneumonia.

A first daughter presented the temperament, constitution, and features of the mother. With the exception of some eruptions on the face and hairy scalp, in early infancy, she has always been healthy, and is at present married.

A second daughter, who presented, on the contrary, the temperament, constitution, and features of the father, had, when some months old, severe ophthalmia, then a discharge from both ears, with enlargement of the cervical glands. There afterwards appeared copper-coloured patches on the arms and legs, and a pustular eruption on the forehead. After an adolescence marked by acute hydrocephalus, palpitations, lateral curvature of the spine, and dysmenorrhœa, she died of pulmonary phthisis, at the age of fifteen.

These observations, entirely confirmative of those of Hey and Rosen, show us in the same families children sometimes healthy, sometimes syphilitic, sometimes scrofulous. And what is remarkable in them is, that we see a child affected with one or the other of these diatheses born *after* a child of good constitution. So that, if the affection which has spared the former attack those which follow,

[1] 'Précis théor. et prat. des Mal. vénér.,' t. i, p. 178.

it is impossible to explain these variations by a spontaneous and gradually progressive diminution of the power of infection in the parents. It may also be observed here that the father did not, at the moment of procreation, present the signs of a confirmed cachexia, of tertiary syphilis of long standing, because he had still from time to time those syphilitic eruptions which belong only to the secondary period.

From these facts, and from what I have observed myself, it appears to me no longer possible to doubt the capability of hereditary syphilis to produce scrofula. But in the examination of the conditions under which it is produced, we must take care (as the experience of Baumès warns us) not to let ourselves be led into an exclusivism to which facts would at once give the lie. If scrofula appears under these conditions, it is not solely because the parents were in the confirmed tertiary state;—it is not solely because the child, chosen as the victim from among its healthy brothers, had a lymphatic temperament;—it is not alone because it resembled the particular parent who was infected;—because it has, alone, been nourished by her milk (when the mother is the culprit);—because the influence of specific treatment was not brought about at the proper time in it, or in its parents, &c.; it is by reason *of all these circumstances, or of several of them combined* that we see the various shades developed which separate a strong and healthy child from one that is puny and sickly; the latter from one that is scrofulous; and this again from one evidently syphilitic. It is enough to say that, in respect to semeiology, there can be nothing precise, unequivocal, or pathognomonic in these affections. Conditions so variable as those I have just described absolutely forbid this. But in respect to the pathogenesis, we may, I think, sum up exactly enough the influence of each of them by saying that, directly or indirectly,—the tertiary stage—the long standing disease—the absence of treatment—the lymphatic temperament of the children—bad nourishment—resemblance to the parent infected, all tend to modify the degree or the energy of the infecting power which has acted upon the fœtus at the moment of its procreation; that it is, in short, feeble, scrofulous, or syphilitic according to the dose of the poison which has exerted its influence upon it before and since its conception.

It must be mentioned that some authors still deny that syphilis is transmitted to children in the form of scrofula. They allege that in the country, where the habits are generally pure and syphilis excep-

tional, we do not see less scrofula than in the large towns, while the other conditions favorable to its development are equal on both sides. Assuredly, when we have to deal with an affection so obscure, so complicated in its ætiology as this, we must not hope to give to this inquiry the precision of a mathematical demonstration. But it would be still more illogical, and above all more dangerous, to reject than to admit too easily any one of its causes. And if not specifically, it will at least be on the footing of the ordinary debilitating influences that hereditary syphilis ought, in my opinion, to be retained among the number of the agents which predispose to the establishment of the scrofulous diathesis.

A second point which presents itself is: *Is scrofula contracted under such conditions identical with ordinary scrofula?* Those who have reflected on the preceding facts, especially those who have themselves had the opportunity of watching the gradual development of a certain number of children begotten under similar circumstances, will recognise without difficulty that their *habitus*, the mode of their growth, and the number and nature of the diseases to which they are subject do not realise the classical type of scrofula. Not, however, that such a difference is always appreciable, or that it always exists; for hereditary or acquired scrofula may also equally be propagated in these same cases, may become a complication of them and thus bring back the symptomatic expression to its normal type. But marked differences are very frequently observed. The derangement does not confine itself, as in cases of pure scrofula, to ganglionic enlargements, affections of the bones, and various eruptions. Here it is the aggregate of the whole economy which has been attacked; and there is no function which does not feel its effect, and suffer or languish. Physical development is slow or imperfect; digestion frequently becomes laborious; plumpness, that thermometer of the health of the new-born child, never rises much above *zero;* the complexion is pale, the flesh flabby; dentition is accompanied by innumerable derangements; the hair is scanty, thin, and discoloured. Later on, puberty, a favorable crisis for other organizations, becomes in it a cause of new dangers.

As for the strictly pathological condition, almost incessant outbreaks at the mucous orifices, accompanied by glandular swellings and milky crusts, soon destroy the beauties of early childhood. Diarrhœa and catarrhs consecutive to hooping-cough persist or return with endless tenacity. Rickets and curvatures are added to

the characteristic lesions of the osseous system. Convulsions or some more serious derangements of innervation show themselves, and return without any appreciable cause. The face is ravaged by lupus, the hairy scalp by chronic eruptions; intercurrent diseases, even those the most foreign to this condition, appear to borrow from it an especial degree of obstinacy or severity. Troncin had already observed this when he wrote: "If a child born of syphilitic parents does not die at birth, the slightest disease will carry it off."

Maisonneuve and Montanier have not understood this relationship exactly in this way. In their recent treatise on venereal diseases[1] they draw a distinct line of demarcation between true scrofula and that which they designate by the term *scrofuloid*. This latter state they consider peculiar to children begotten by parents affected with secondary lesions of long standing; they continue thin, with little hair, a pale, dull, somewhat earthy complexion, until five, ten, or fifteen years of age; about this period they are seized with an affection of the bones which is distinguished from that produced by scrofula by frequently causing severe pains and seldom terminating in suppuration. The glands are less frequently affected in the scrofuloid form. Ophthalmia, coryza, and otorrhœa are its pretty frequent accompaniments. Lastly, that which, in their opinion, forms a distinction as marked as it is reassuring between the two affections is, that iodine does not arrest the progress of scrofula, and that, on the contrary, it cures the scrofuloid form as if by magic.

By comparing this description with that which I have given above, it will be seen in what they differ and in what they resemble each other. To Maisonneuve and Montanier, as to me, scrofula the result of hereditary syphilis does not appear absolutely identical with ordinary scrofula. But, according to them, it is scrofula *minus* certain symptoms, while I am disposed to regard it as scrofula *plus* certain symptoms. The perusal of their interesting remarks has not shaken my conviction, the result of careful observations; and I persist in thinking that, if we would trace out a faithful sketch of this special and still so obscure affection, it must be rather by adding some traits to the picture of scrofula than by modifying its essential features.

Is there any necessity of insisting upon the paramount importance of such problems? Every sensible man will understand of himself

[1] 'Traité prat. des Mal. vénér.,' 1853, p. 365 and 396.

the wide vistas which they open out to the social economist, the legislator, and the physician, for the welfare of individuals, and the perfecting of our species.

If the reality of this mixed influence become established, if we succeed in determining strictly the conditions which bring it into action, and can specify the part which it plays in various diseases of infancy, a radical progress will have been effected. For we should then be in a position to prevent those diseases by antisyphilitic treatment of the parents, carried on longer than we are at present in the habit of doing, and by the employment, the bolder from the moment of its becoming rational, of the same agents against certain affections of children, for which the specific would then be found. I shall have occasion, in the therapeutic portion of this work, to resume this question, for which I ask the consideration and investigations of all those whose position enables them to follow from generation to generation the downward progress of the venereal poison in families.

PART III.—PROGNOSIS.

To say that syphilis is a more serious affection in new-born children than in adults, would only be to express a familiar truth. Conceived in such terms, this proposition would but amount to an assertion without import; for if no one disputed its correctness, neither would any one recognise its practical consequences. It suffices to open a page of the nosographies which treat of this affection, or to enter a hospital devoted to the treatment of it, to obtain an idea of the proportionably enormous mortality which presses at this age upon its victims. But neither reason nor humanity can be satisfied with such vague data: the one has a right to ask the cause of this peculiar fatality; the other seeks to become acquainted with the results by which it manifests itself, for the purpose of divining the remedy from its effects. Let us inquire first *why*, then *in what*, congenital syphilis is more serious. This will be to study prognosis from the points of view which admit of our drawing its most fruitful corollaries, in its ætiological and semiological bearings.

CHAPTER I.

ÆTIOLOGICAL PROGNOSIS.

Among the writers who have endeavoured to determine the cause of the serious dangers of congenital syphilis, the generality confine themselves to attributing it to the age of the subject it attacks. At a period at which development is so imperfect, and at which life offers so little resistance, is it surprising, they say, that a *dyscrasis*, bearing at the same time upon the solids and the fluids, producing moreover lesions directly compromising by their number, their extent, and sometimes by their seat, should involve derangements greater than the powers which the organization is capable of opposing to them?

Several reasons offer themselves in opposition to this explanation:

In the first place, the natural powers are not so rudimentary in the child that it must necessarily sink under diseases which it would pass through without risk at a later period. Is there, in this respect, a very great difference between the effect of acute diseases, pneumonia for example, in it and in a man of thirty?—very far from this: there are certain very serious affections, the shock of which it bears much better than the adult; affections, the danger of which, on the contrary, increases in a direct ratio to age. Such are the eruptive fevers, especially smallpox; an instance the more conclusive, inasmuch as it presents the double analogy to syphilis of a virulent disease and of one the manifestations of which occur chiefly in the tegumentary system.

Secondly, supposing—as is true—that the feebleness peculiar to early age had some share in the severity which syphilis then displays, is it logical to conclude that this is all? What! by virtue of this sole difference, should a disease which, in the adult,[1] is only

[1] The mortality in the venereal hospital is the lowest of all the hospitals of Paris. It is 1 in 203, that of the Hôtel-Dieu being 1 in 9.

exceptionally dangerous, very exceptionally fatal, become one of the most active causes of death in carrying off infants at the breast.

If the difference were the sole agent to be considered here, we ought to see its influence continue—decreasing, it is true—but continue in an appreciable manner until adult age. Thus, children accidentally contracting primary chancres would undergo the same chances of death as those who receive the infection from their parents. Children of fourteen or fifteen who contract syphilis by coitus would see its progress hastened and its prognosis, relatively to that of syphilis in the adult, rendered unfavorable in direct ratio to their youth. There would, in a word, be degrees of severity according to age. But nothing is more false. Syphilis, so often fatal in new-born children when inherited from their parents, scarcely ever compromises their existence when it has been accidentally inoculated from a primary chancre in the adult. In short, whatever its origin may be, it has neither a different evolution nor more serious dangers for adolescence than for riper age.

In the third and last place, congenital syphilis does not assume either the behaviour, the progress, or the concatenation of symptoms of the syphilis of adults. A little observation suffices to show that we have here two diseases analogous, but not identical; that if their prognoses differ, it is less on account of the age of the subjects they attack than from the nature and character peculiar to each of them. Producing, previous to any characteristic symptom, a kind of atrophy or stunted condition of the whole economy; breaking out afterwards at a hundred points almost at the same moment; accompanied from the first by the visceral lesions foreign to acquired syphilis; contagious by its slightest symptoms, congenital syphilis can be compared only to itself, and it is from its energy much more than from the weakness of its victims that we must ask the secret of the special dangers which it involves.

Even when this source of error has been avoided, the truth is none the less difficult of discovery. Let us make the attempt, however. For my part, I attribute to two distinct but always combined causes the greater banefulness of congenital syphilis; first its mode of origin, then the conditions which induce its outbreak.

When a grown-up man acquires constitutional syphilis, it produces a deep-seated change in his organism; but this change, effected only by the aid of molecular reproduction in the body,

cannot be either more rapid or more integral than it. The modification is, therefore, essentially slow. Further, it remains for a long time partial, because it acts rather upon the molecules produced from the moment when it became developed than upon those which existed previously. Very far from this, the syphilis which exists anteriorly to the development of the being, imprints its seal upon the whole movement which is about to form the ovum into an embryo, the embryo into a fœtus. During nine months, the creative *nisus* will experience its fatal influence; not a fibre, not a cell, will be added to those already organised, without the dyscratic perversion having vitiated the one and the other, as well in their histological composition as in the mode of their aggregation. The function and the growth of the germ becoming a human being will not escape for a single moment the ever present, ever active poison. In a word, we may sum up this fundamental difference with no less correctness than lucidity by saying that, in the adult, the poison vitiates only the elements of nutrition, while, in the fœtus, it vitiates at the same time those of formation and those of nutrition.

The second class of causes explains perhaps still better the difference between the two kinds of syphilis. An adult contracts a chancre; at the age of two, three, or four months, constitutional symptoms appear. But do they always present themselves simultaneously, always in the same number, always at the same points? Certainly not; and it is here that accidental causes manifest their influence. If the lesions invade the throat, the hairy scalp, the anus, the skin, &c., successively in him, it is because the predominant vitality of these parts has attracted the syphilitic current to them in the corresponding order. If, in another case, the phenomena appear in the spring, after violent emotions, or after fatigues or excesses, it is because, by virtue of these circumstances, a stimulus is superadded to the slumbering diathesis, and has called it into action. Lastly, if the lesions affect certain organs by preference, as the eye, the testicle, the mucous membrane of the mouth or nose, &c., it is often because functional hyperactivity, or foregone diseases, having long habituated these parts to congestion, have more particularly directed the morbid discharge to them.

But it will be understood that as these causes refer, some to a given period, others to a given tissue, some to a particular organ, others to a particular region, they can only induce local syphilitic outbreaks from time to time and alternately in certain parts; for all

the periods of life and all the parts of the human body cannot be upon an equal footing in reference to the influence of these causes, or all of them in a position to offer a simultaneous and identical predisposition to their action.

Yet what would be chimerical in the adult becomes a melancholy but striking reality at the time of birth. The instantaneous and fundamental revolution which the commencement of extra-uterine life effects in the whole organism, offers the most plausible explanation of this; for there exists here a cause of evolution with which none of the derangements to which the adult is exposed can vie in power. For even supposing them all combined, what morbid or physiological, physical or moral influence could effect in the functions this change, which is almost equivalent to a second creation? Which, above all, could effect it in a single moment? Neither must we be surprised if, under the stimulus of the new duties which nature imposes on them, the skin, the mucous membranes, the liver, the lungs, the thymus gland, and the digestive and respiratory orifices, are summoned at one and the same time both to duties and to diseases previously unknown. If an accidental excess of vital action sufficed, in the adult, to direct these diathetic crises to them, they now offer them a very different vantage ground; for, at this period, it is not a question of a transitory hyperactivity in them; they do not merely assume a different functional type: they are actually beginning to exist.

Is it now evident why the manifestations of congenital syphilis are effected in a few days in all parts of the body, attack at the same time the integuments and the viscera, and exceed in rapidity and extent the most violent constitutional invasions which we observe at a riper age? The preceding considerations would already suffice to explain the baneful prerogative which they exercise in this respect. Those which I am now about to point out, regarding the question from another point of view, will complete the explanation.

Congenital affections are not distinguished from those of the adult solely by the abruptness and the multiplicity of their manifestations; they differ also in the acuteness and the *extensiveness* of the lesions to which they give rise. They derive the former property, as we have seen, from their origin; they owe the latter to their nature. This point is somewhat difficult to define clearly, and, to make my idea intelligible, I am obliged again to employ the

only comparative term which offers itself in such matters—the example of the syphilis of adults.

It is an established fact that, amongst the symptoms of all kinds which this latter affection engenders during its progress, there are acute and chronic, progressive and circumscribed, painful and indolent, febrile and apyretic, contagious and non-contagious symptoms. But upon what do these varieties depend? Upon a single element—the place which each of them occupies in the chronological order of the evolution of syphilis. The nearer they stand to the commencement of the venereal inquination, the more active, painful, invading, and communicable they are, and *vice versâ*. A glance at the picture of the disease proves the truth of this statement. Thus:

Primary chancre is always and banefully inoculable; it ravages the tissues, and often produces an assemblage of serious secondary phenomena.

Mucous tubercle—very usually the second symptom in point of time—is no longer inoculable by the lancet. But numerous authorities admit fully, on the evidence of facts, its transmissibility by contact. It invades extensive surfaces, and often occasions severe pain in them.

Constitutional pustules and maculæ—which generally appear later—are neither inoculable nor contagious. But they are still propagated by the blood, from parents to their children. They occasion so little irritation that individuals are sometimes seen to be the subjects of them for several weeks without being conscious of their existence.

Lastly, tertiary symptoms, refractory to every mode of inoculation and contagion, have, according to good authorities, equally lost the property of being communicated by generation, at least with the specific characters of syphilis. They frequently remain unrecognised in the form of chronic engorgements; and if they sometimes produce acute sufferings, this arises solely from the peculiar anatomical structure of the organic system which they attack by preference, and in which inflammation cannot reach a certain point without producing the phenomenon of strangulation.

But this progressive diminution is not an effect without a cause. It results from the invalidation which the depurative action of the organism effects in all morbid influences, especially in poisons. The pus of chancre, while passing through the lymphatic glands, leaves there a portion of its virulence; and the proof of this is, that there

is never more than one syphilitic bubo in the course of the same lymphatic vessel, the second gland reached not being subjected to a poison powerful enough to determine in it, as in the first traversed by it, an inoculable suppuration. A further proof is, that when a specific bubo suppurates, the poison has undergone so perfect a neutralization during this elaboration that it very rarely continues capable of producing constitutional syphilis.[1] Further on, the poison, having passed into the circulation, gives rise to a first outbreak of general symptoms; but it becomes exhausted by degrees, either by these symptoms themselves or by the gradual elimination of its principles effected by the various natural or morbid secretions, those valuable and remarkable agents of the physiological depuration constantly going on in the human body. The various symptoms which present themselves successively, at longer or shorter intervals, also lose more and more, as has just been shown, their acute character, and *become milder*, to use a popular expression, *as they grow old.*

Of these favorable conditions not one exists for the fœtus. In the first place, the poison is communicated to it by the semen, the ovum, or directly by the blood of the placenta. It therefore enters immediately into its formative elements, or into its vascular system, without having been modified by that digestion in the lymphatics which often frees the adult from its baneful consequences. On the other hand, without defence against its attacks, the fœtus finds itself equally deprived of the means of remedying their defects; for the secretions and exhalations by which the deleterious principles might be expelled are inefficient during *intra-uterine* life, or remain in the rudimentary state.

And when this poison, exempt as yet from any neutralizing elaboration, breaks out under the influence of the thousand stimuli of *extra-uterine* life, we must expect a discharge as dangerous from the nature of each of its effects as from their prompt and simultaneous irruption. In fact, the symptoms which then show themselves have the capability of spreading the contagious property and the acute character which belong to primary affections; and they have, at the same time, the tendency to appear in indefinite number, and simultaneously in the most various parts of the body, observed

[1] Ricord has very properly laid great stress upon this extreme infrequency of constitutional syphilis, as a sequel of chancres which have produced buboes terminating in virulent suppuration.

in constitutional affections. Experience confirms only too fully these data, which I myself should rejoice to be able to qualify with the name of mere theoretical assumptions. These corroding ulcers, which recall the fabulous times of the syphilis of the fifteenth century; these suppurations, which destroy in a week the bony structures of the nasal fossæ; these bullæ, invading almost visibly the whole external integuments; these hideous crusts, under which the face of the child remains buried until the last day; these collections of pus, which undermine the parenchyma of the most important viscera; these mucous patches, crowded and convergent, which multiply and propagate themselves with a rapidity which nothing can arrest; the undoubted contagiousness of many of these tegumentary lesions; the deep and sudden impression which such charges make upon the health; the early cachexia, and the termination which is its too common consequence—does not all give evidence of a peculiar virulence in the morbid agent; does not all indicate here symptoms in which nothing is wanting of the devouring activity of primary any more than of the almost instantaneous generalization of constitutional affections?

I had cause to say, then, on commencing this chapter, that congenital syphilis affects a gravity incomparably greater than that of acquired syphilis. It now remains to be shown in what this gravity consists, and to point out the effects by which it manifests itself.

CHAPTER II.

SEMEIOLOGICAL PROGNOSIS.

I HAVE reserved for this section the detailed indication of the dangers which congenital syphilis involves, whether for the child, or for the persons who come into contact with it. For the former, it is death during intra-uterine life, and, as a consequence, abortion; or else death after it has come into the world. For the latter, it is the communication of its disease, whether to the mother during gestation, to the nurse, or to indifferent persons. All these are questions full of interest and pregnant with controversy.

I.—*Abortion.*

That the embryo may be arrested in its development by syphilis; that this affection, which often kills it after birth, is capable of destroying it before, cannot well be doubted by any one, so greatly do evident and flagrant instances thereof abound. A hypothesis has, however, sprung up against this doctrine, and has gained ground. Far from accusing syphilis of these ravages, it is in its antidote that some writers have professed to find the culprit. Transforming such an error into a formal precept, De Blegny, as early as 1673, did not hesitate to state that "it is necessary to wait, before treating a pregnant woman affected with syphilis, until pregnancy is somewhat advanced, because until then the child is too feeble to resist *the impression made by mercury.*"[1] Since his time, the same tradition had been advocated, at long intervals, down to our own days; and (to quote one of the most recent and the most respectable) I find it represented in Huguier. This learned practitioner has stated positively, in a memoir read at the Academy of Medicine in 1840:[2] "Syphilis, left to itself, is not such a powerful cause of abortion as is

[1] 'L'Art de guérir les Mal. vénér.,' etc., p. 265.
[2] Sitting of July 14th.

generally believed. Abortion occurs chiefly in women treated with mercury."

But of all the points of dispute in connexion with congenital syphilis, not one, perhaps, is so susceptible of clear and decisive solution as this. And if there be in pathology a truth strictly demonstrated, it is beyond contradiction the frequency of abortion in pregnant women affected with syphilis, and the direct power of syphilis to cause this accident. The annals of science actually swarm with observations in which three, four, or even six deliveries, in a syphilitic mother, inevitably terminate either in abortion or in the birth of syphilitic children. I will quote two instances only.

Bertin[1] treated a woman of twenty-six, who had flat pustules on the *labia majora*. She had already had them six years before, at the time of her first pregnancy, which terminated in abortion at six months.

The second child was born at seven months, and lived eight hours.

The third was born dead at seven months and a half.

The fourth was born at the full time, but lived only eighteen hours, and presented, at birth, pustules about the anus.

The fifth, also born at the full time, had pustules on the buttocks, and ulcers on the lips. It died at the age of six weeks.

Lastly, the sixth, which was also affected with pustules on the buttocks and hairy scalp, reached the age of four months without having undergone any treatment. It was then put under the influence of mercury, and its health restored.

C. F. Haase[2] mentions the case of a woman, aged twenty-two, who contracted from her husband ulcers and condylomata in the vulva and throat. A first female child was born dead at eight months. The same was the case with the second and third child. The fourth reached the full time, but had hydrocephalus, and died at seven months. The fifth had a serpiginous ulcer on the face, which could only be cured by the gummy mercury of Plenck, and infected its nurse. The sixth was born with general erythema, and died soon afterwards. Lastly, the seventh is tolerably healthy, but had some scrofulous affections at the age of two years. The author adds that the father and mother, convinced of their own healthy condition, refused to undergo any treatment.

Striking coincidences prove here the nature of the cause which determined the abortions. In both the cases the parents were affected with syphilis; in both some of the children were born at the full time with evident constitutional symptoms; in the first of them, lastly, the venereal nature of the lesions in the surviving children was demonstrated by their having been cured by means of mercury.

[1] Op. citat., p. 142.

[2] 'Comment.,' Dresden, 1828, p. 18.

In other observations this therapeutic test has been still more significant, and a woman afflicted with continual miscarriages has been observed not to bring any pregnancy to a happy termination until after the diathesis which had previously impeded their progress had been eradicated by mercury. The following is a remarkable instance of this:

Ranking[1] knew a young man who was attacked by symptoms which two eminent surgeons pronounced to be *pseudo-syphilitic*. He married, and his wife contracted mucous tubercles on the perinæum, *labia majora*, and about the anus. Cured by local treatment, she became pregnant and miscarried towards the end of the sixth week. A copper-coloured eruption then appeared, and anti-syphilitic remedies were administered, but very incompletely. Another pregnancy, with abortion, about the fifth or sixth week. Attributing these accidents to weakness, she went to live in the country, again became pregnant there, and was delivered, at six months, of a dead child, whose skin peeled off everywhere. The chimera of pseudo-syphilis was then dissipated, says Ranking. Father and mother underwent a course of anti-syphilitic treatment for three months. Since that time she has had a child born at the full term, and which enjoys perfect health.

An entirely different class of facts will furnish us with a proof in the inverse sense. Parents contract syphilis. They had previously had living children; they will no longer have any other than still-born ones. This influence is evident in the following case:

A man, whose history has been related by Snow,[2] "had had three very healthy children. He then contracted syphilis, which he communicated to his wife. They both had constitutional symptoms which were imperfectly treated. The wife then becoming pregnant for the fourth time, she was delivered of a still-born child at the full term.

Lastly, and as if to render more striking the evidence of this cause, nature has sometimes arranged matters in such a manner that a syphilitic woman brings forth successively still-born syphilitic children and healthy children, according as she has had them by a syphilitic man or by a healthy man.

A woman was delivered in each pregnancy, about the seventh or eighth month, of a dead child, which bore well-marked signs of syphilis. A later child was born alive, but was attacked by syphilis, which carried it off in its first year. Her first husband, who had given her the disease, being dead, she had by a second husband a sound and healthy female child, although she herself continued to suffer from well-marked constitutional symptoms.[3]

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[1] 'Abstract of the Med. Sciences,' p. 282.

[2] Ranking, loc. citat.

[3] 'Journ. des connaiss. médic.-chirur.,' 2d year, p. 258.

Grouped together, these facts appear to me to throw a light upon the actual points at issue, which admits of their being decided in one way only. If the presence of syphilis is demonstrated in the parents; if one and the same woman, who went to the full time before having it, miscarries from the moment of contracting it; if she then has indiscriminately miscarriages or living but syphilitic children; if mercury cures the latter; if, lastly, mercury imparts to her the faculty of bringing to a happy termination the pregnancies which occur subsequently to its administration, then has syphilis evidently been the sole agent here, and it would be the grossest as well as the most dangerous error to suppose its antidote to be an ally.

The preceding observations suffice to show the period and the circumstances under which abortion supervenes. I am only anxious, as I wish to utilise this idea hereafter, to call attention to the fact that syphilis did not proceed from the father alone in any of those which I have just brought forward. This result would appear to refute the notion of Prieur, adopted by Lloyd and Wade. The first asserts, in fact, that abortions resulting from syphilis occur earlier; the two others, that they are more frequent when it is from infection in the father than when it is from that in the mother that the cause proceeds. Our observations do not authorise us to deny this assertion, but they do not any more oblige us to admit it; and it appears to me, on the contrary, that the mother—who furnishes the ovum, then to that ovum the materials of its nutrition and development—has, if I may be permitted to use this expression, both more means and more time to act upon it than the father, whose vivifying action is only instantaneous. Moreover, to exhaust the question, it would be necessary to distinguish between the cases in which the mother was syphilitic before conception and those in which she became so afterwards, a difference to which there is nothing to show that the writers quoted above have attached the importance which it deserves.

Does abortion result from the disease in the mother or from the death of the fœtus? Gardanne decides the question arbitrarily in the first sense. It depends, he says, "upon an extraordinary sensibility in the neck of the womb in syphilitic women." It is easy to conceive that a woman who has reached a degree of constitutional affection verging upon cachexia is no longer capable of resisting the physiological labour the integrity of which is necessary for normal gestation. Thus—

Wardrop treated a lady affected with syphilis in whom a condition characterised by diarrhœa, sleeplessness, and acute pain in the side, returned periodically in the sixth month of pregnancy, and caused abortion. She had already had six pregnancies terminating in this manner, and was cured by mercury.

But the progress of the symptoms does not allow the belief that the cause is usually of this nature. In general, it is not after serious pathological derangements that syphilitic women miscarry. It is during a state of health apparently intact that the movements of the child cease to be felt; and soon afterwards it is expelled.

As for the fœtus, there are sometimes found in it the signs or vestiges of the infection which has destroyed it. In other cases, nothing can be recognised except the relative imperfections of its development. But sometimes all indications of this kind are entirely wanting. Thus—

Campbell witnessed three miscarriages at six months in a lady whose husband was affected with syphilis. "But," he says, "the three fœtuses presented no change or dissimilarity, for the degree of their development, to a healthy child which had remained for a similar period *in utero*."

II.—*Death after Birth.*

This is not the most common, but still it is a very frequent, termination of syphilis at an early age. I had endeavoured to determine statistically its comparative frequency, but the elements of a serious calculation are here absolutely wanting. Many writers take into consideration only their hospital practice, in which the infrequency of natural lactation adds to the disease a source of gravity foreign to its nature. A still greater number (and the conscientious Bertin does not entirely escape this reproach) place the fatal termination too easily to the account of intercurrent diseases. Others, lastly, allude only to the condition of the child; and, when once the characteristics of syphilis have been clearly established, make no further mention of its consequences.

A more precise idea of the mortality due to this cause may be acquired by reading the observations already quoted in this work and those which I have still to mention. Chosen from the most complete, they will sufficiently enlighten us on the period of death, the derangements which cause it, the accessory influences which may hasten it, and the circumstances which prevent or retard it.

As a transition from abortion to the death of an infant born

alive, and as a remarkable instance of this latter consequence of syphilis, I will introduce here the following case:—

Devergie[1] mentions a young man who had had symptoms of syphilis, and marrying afterwards, had ten children in succession which died suddenly immediately after birth, from the effect of the syphilis with which they were tainted. The father having then consented to undergo a course of treatment which lasted eighteen months, an eleventh child was afterwards born, which has always enjoyed good health.

Since the recent discovery of the specific changes in the liver, lungs, and thymus gland, coexisting with external congenital symptoms, it has been sought, as a rule, to attribute death to these visceral changes. Without any doubt, they often have a large share in it, but they do not always exist. If the silence of the older writers about them, who were not acquainted with them, prove nothing concerning their possible absence, the same will not apply to modern observers. There exist, in fact, cases in which the autopsy of children dying of syphilis has shown the complete integrity of these viscera. The case of congenital pemphigus of P. Dubois, quoted by Bouchut, might be ranked amongst these facts, notwithstanding the spots of sanguineous infiltration existing on the surface of the lungs; for this lesion does not appear to me either sufficiently extensive or sufficiently profound to have been the cause of death. Moreover, in similar observations, we must distinguish carefully between these true changes, with suppuration or induration of the parenchyma, and those congestions which debility and prolonged decumbency almost always produce during the last days of life. They have no specific character, but are met with in all children who sink under general affections of rapid progress.

III.—*Gradual diminution of the fœticidal action of the poison.*

As a compensation, in some sort providential, of the influence we have just been examining, this progressive spontaneous declension of the fœticidal action exercised by syphilis in the parents is fortunately a reality demonstrated by numerous examples. It has already been pointed out by several writers, and Simon affirmed positively that "the syphilitic *dyscrasis* wears out and exhausts itself

[1] 'Procès-verbal du Congrès de Nantes,' p. 59.

upon the first children." But however old this view may be, I shall not stop to examine the question; for it cannot be so interesting to determine the origin of it as the proofs.

These proofs are, however, so numerous, they bear such a stamp of clearness and force, that every man who repeats for himself the analysis which I have had occasion to perform, will, I affirm, be struck with their evidence, and will infallibly discover personally *this law of decrease,* as it may be called. The observations already quoted above in reference to abortion all bear witness in its favour; and it is curious to remark in some of them the regular diminution of the influence, expressing itself in the successive children by the longer or shorter duration of intra-uterine life. In the case related by Bertin it is almost a mathematical progression; for we see the first child born at six months; the second at seven; the third at seven and a half; the fourth at the full time, but surviving only eighteen hours; the fifth also at the full time, and surviving six weeks; and the sixth, lastly, living four months before any treatment was adopted. In most of the cases of this kind—and they are almost innumerable—it is equally by the more and more prolonged retardation of abortion that the rule is confirmed. If, then, the number of gestations give to this power of eliminating the poison which nature possesses time to act, it ends by causing, first, a delivery at the full time (the child being dead), and ultimately the birth of viable children. It must be understood that I am now examining the question apart from the modifications effected by treatment.

The same gradual diminution is still observed in the effects of the poison when, originally less energetic, it no longer attacks the fœtus *in utero,* but solely after birth. The following observation is most conclusive:

Lallemand[1] was consulted by a married couple named X—. The husband, some years before marriage, had had chancres, which were treated without mercury. His wife soon afterwards, being pregnant at the time, had irritation of the genital organs. She took mercury, but in very insufficient quantity. The child was born healthy, and continued so until the fourth month; it then became emaciated, and its body covered with pustules, and it died two or three months after.

The mother now had ulcers in the throat. A new course of treatment, commenced at this period, was not properly carried out. A second child began to

[1] 'Journ. univ. de Méd.,' p. 27.

decline about the fifth month, and afterwards sank with a general eruption. The mother was put under treatment for the third time.

At the end of a year, a third pregnancy; the child had the same symptoms as the preceding one. The father was then put under treatment.

Some months afterwards, a fourth pregnancy; at four or five months the child had patches on the skin, of the colour of wine lees, then pustules about the anus. It was cured by mercury.

The mother had a fifth pregnancy, during which Lallemand treated her with the muriate of gold and soda. The child has continued healthy, having had nothing except some milky crusts, of which it was cured without anti-syphilitic remedies.

She has since had another child, which has not even been affected with crusts.

To all practitioners who know the little efficacy of the preparations of gold in the treatment of constitutional syphilis, it will appear only strictly just to attribute chiefly to spontaneous *decrease* the good health of the later children, of which the illustrious professor claims all the merit for the muriate of gold. However, as the numerous though imperfect treatments employed in these cases might throw some doubts upon its signification, I will refer sceptics to the observation of Haase mentioned above (p. 136), which shows, after three miscarriages, a child born dead at the full time, then two syphilitic children, and a fourth which was only scrofulous, all born of parents who had never consented to take mercury; to the twenty-seventh observation of Bardinet, in which we see a syphilitic mother bring into the world successively, first, a dead child, then a child which afterwards became affected with mucous tubercles; to the seventeenth observation of the same author, in which, in two successive deliveries, the children both sank under hereditary syphilis, but after having resisted it, the first twelve days only, the second a month. But I stop. It would be superfluous here to accumulate facts in support of this theory, when there is not a book, an article in the journals, nor a memoir on the subject, in which they do not abound, and solicit, as it were, the eye of the reader.

But I will state somewhat more in detail an interesting observation made by Doyon and Dron, at the hospital of L'Antiquaille:[1]

A woman, named D——, æt. 46, came there on the 21st July, 1853, to seek treatment for a syphilitic affection which she had contracted eleven

[1] 'Gaz. hebdomad. de Méd. et de Chir.,' April, 1854.

years previously, from suckling a child which had pimples on the body and limbs, and abundant mucous patches about all the orifices.

This woman had herself pimples upon the breasts, then in the vulva, alopecia, glandular swellings at the nape of the neck, the groin, and the axilla.

Her husband, a churchwarden, had had connexion with her, and having been previously healthy as well as moral, saw, at the end of a fortnight, papulæ develop themselves upon his scrotum. He next had the disease in his throat, and ultimately symptoms analogous to those in his wife.

But this woman, who had previously had four children without any trace of venereal disease (three of whom are still alive, while the fourth died of convulsions), again became pregnant after having infected her husband. She was delivered at the full time in 1844; but the child was small, yellow, and wrinkled. It had large pustules in the left axilla, and died when a fortnight old.

Another pregnancy in 1846; the child was born at the full time; it was puny, and the face wrinkled and old-looking. A month after birth pimples appeared about the anus, the genitals, and the mouth. It died at the age of two months.

The last pregnancy occurred in 1848. This time the child, born at the full time, lived. It is now five years old, but its health is bad, and there is little prospect of saving it.

It must be noticed that neither the father, the mother, nor any one of these three new-born children, has ever undergone specific treatment.

In this case the lateness in the appearance of the symptoms, as well as the duration of extra-uterine life, gradually expand in the most regular progression possible with each later-born child.

Yet, notwithstanding the number of the clinical facts which bear witness to its exactness, the *law of decrease* presents exceptions. But these exceptions, interpreted logically, support it much more than they invalidate it. I am about to prove this by quoting an instance of each kind.

In the case already quoted from Snow (p. 137), there were, first, three healthy children; the fourth was born dead, at the full time. But it is in the interval between the third and fourth pregnancy that the father and mother had contracted syphilis. Here the exception is evidently only apparent.

Here is a second case:

A young man, whom Simon had treated by mercury for secondary ulcers in the throat, married. His first child was born strong and healthy. The four following children presented at birth indisputable symptoms of syphilis.

This fact, at first sight opposed to our law, admits of two explanations. Firstly, if it be true, as is at present taught, that

mercury has only the property of curing and removing the syphilitic manifestations, without being capable of eradicating the diathesis itself, it must be admitted that the less time that has elapsed, at a given moment, since the administration of this remedy, the more will the individual be ensured against the early appearance of a new manifestation. But the procreation of a syphilitic child is very certainly one of the most incontestable evidences of constitutional syphilis in the individual who has effected it. There is nothing repugnant, then, in the idea that, in the case quoted above, the mercury recently prescribed still sufficed to maintain the seminal fluid of the father in good condition; and that it had, on the other hand, afterwards resumed its venereal character in proportion as the effect of the treatment became lessened by time. This idea would indicate the propriety of renewing the anti-syphilitic treatment with each new pregnancy. This suggestion, which other observations tend to justify, will be discussed with the attention which it merits in the fifth part of this work.

The second explanation would consist in supposing that the husband, imperfectly cured (as the result has shown) of his venereal affection, has transmitted it to his wife between the first and second pregnancies; and that the second child, receiving the infection from both its parents, has naturally suffered more than its predecessor, who had only been subjected to the former.

But, amongst the exceptional cases of this kind, there are some in which the husband, previously infected during his celibacy, has had no new symptom, either primary or constitutional, from the time of his marriage. How can we conceive that he has communicated anything to his wife? Here it is the infection of the mother by the fœtus which can alone account for the exception to the law of decrease; and it may even be said—so incontestable is this law—that facts of this kind, even while receiving their explanation from the contagion thus transmitted to the mother, constitute themselves solid proofs in favour of this doctrine. For if we do not conceive the *increase* except by admitting the infection of the mother by her offspring, the reality of this mode of infection is, in its turn, rendered very probable by the progressive augmentation of the derangements in successive pregnancies, a phenomenon altogether unusual. It is under this double title that I bring forward the following fact—

In 1843 Campbell[1] was consulted about a lady who was pregnant for the fourth time. Her first child was born at eight months, and lived only eleven days. The second was born at seven months, and only survived an hour. The third pregnancy terminated in a miscarriage at six months. Campbell convinced himself that she had never had symptoms of syphilis. The husband confessed that, seventeen years before marriage, he had had syphilis several times, of which, though assured to the contrary, he had never been completely cured. At that time, however, he showed no trace of the disease. Mercury was administered to both parents. They then had a healthy little girl, born at eight months.

Here the husband was no longer capable of transmitting anything to his wife; but he communicated the disease to his children. These developed it in their mother by means of the blood they returned to her. And we may, by observing the increasing earliness of the successive miscarriages, see the gradual effects of this contamination, from which she does not herself appear to have suffered personally, but of which the deleterious effect upon the vitality of her offspring went on increasing.

In other cases, the mother does not resist this return shock produced by each fresh pregnancy. Her health, previously intact, is shaken by the first; after the second, evident symptoms of syphilis appear. This semeiological history is repeated, trait for trait, in the following observation:

Mr. T— married after having had four venereal affections, imperfectly treated. He was weak, but had no specific symptom. A year afterwards his wife was delivered of a child, apparently healthy, but which, when three weeks old, presented a very well-marked pustular venereal eruption. From this time, the health of Mrs. T— became precarious. The child died at the age of eleven months. She then had a second child, which died, like the first, at ten months. Four years afterwards she was attacked by dry copper-coloured pustules, and cracks and fissures in the palms of the hands. Mr. T—, not having had any distinct venereal symptom since his marriage, did not adopt any treatment, but two exostoses supervened.[2]

A significant dissimilarity manifests itself between the cases of *decrease* and those of *increase;* and it is so marked in the observations quoted above as examples, that it cannot have escaped the eye of the reader. It is, that in all the cases of decrease the mother was syphilitic, alone or in common with the father; in all those of increase, on the contrary, the affection in the first children proceeded

[1] The 'London and Edinburgh Monthly Journal,' 1844, p. 514.
[2] 'De l'extinct. de la mal. vénér.,' 1834, p. 50.

from the father alone. Upon what does this contrast depend? It can only be understood in one way. If, at the time of the first pregnancy, the mother is diseased—the father being so or not—the diathesis ought to go on decreasing in them, because the father, being able to defend himself against contagion which might accrue to him from his wife, and not being subjected to any from the fœtuses, escapes it, and never contributes a new element of infection to his later children. And, in reality, the effects of the diathesis, appreciated by the varying period of the deaths of the children, show that it actually goes on decreasing in such a case. If the father alone be, on the other hand, affected at first, then it is not surprising that the influence exercised upon the life of the children becomes more and more deleterious; for, sooner or later, whether by the fault of her husband, or by the involuntary fault of the children which she bears in her womb, the wife shares the diathesis. And from this moment she adds to the fœticidal principle, furnished at first by the father alone, a new element all the more active because, reinforced at each fresh pregnancy, it realises in its literal rigour the classical *vires acquirit eundo.*

IV.—*Transmission of Syphilis from the Fœtus to its Mother.*

In addressing myself to this important and mysterious question, I am merely carrying on the preceding subject; for several of the facts related above bear directly upon it, and there is not one of them which does not, more or less, contribute to prepare the way for its solution.

This question is, from its very nature, doomed to a long investigation before it can be definitely settled. Indeed, none of the parties being able to appeal to facts absolutely conclusive, either *pro* or *contra,* we are compelled to make up for quality by quantity, to wait until a fortunate chance connects under the eye of the observer the circumstances so rarely grouped together, from the aggregate of which not a proof (which is here almost impossible) but a probability may spring.

As a compensation for these difficulties, the tendency to sytematize has, hitherto at least, respected this problem. Each writer furnished his doubts, his leanings, and his assumptions. No school made a *cabinet question* of the solution of this clinical problem in

any one given sense; and the study of it has been pursued with the calmness and impartiality necessary for a work of long duration, which our grandchildren only, are perhaps destined to bring to a happy termination.

Would passion seek, in the end, to usurp this corner in science, hitherto closed to its suggestions? I had reason to fear so on reading the most recently published work on venereal diseases, the treatise of Maisonneuve and Montanier. I shall not imitate their example; I do not seek to oppose equivalent affirmations to their absolutely negative conclusions. If my egotism could hope to find some advantage in it, science would certainly lose thereby; for it is not by affecting a tone of certainty, where it is radically unjustifiable, that we shall make real progress. Is it not better to confess our doubts frankly? On these terms, I do not fear to set the example.

Two paths present themselves for the solution of this question: *induction* and *experience*.

A. In the first place, is this idea of an infection of the mother by the fœtus so indefensible against logic as many are pleased to assert? Without doubt it is not. Is it not universally admitted that if the mother contract syphilis during her pregnancy—the father being healthy—she may communicate it to the fœtus? Assuredly yes. But by what mode of transmission is the disease produced here? Incontestably by the blood; since, after conception, it is only by means of the utero-placental vascular system that the fœtus is connected with its mother. But if the syphilitic blood of the mother suffice to infect the fœtus, why may not the fœtus—having received syphilis from its father—be capable, in its turn, of infecting its mother by the blood which it sends back to her? Is it not, in both cases, the same agent, taken at a similar period from the same disease, which circulates in the same vessels? And in presence of such a perfect identity of causes, is it then so very hazardous to infer the possibility of a similar effect?

I foresee an objection: it is arterial blood which the mother transmits to the fœtus; it is only venous blood which she receives from it. But the former, more vital, exercising an essential influence in nutrition, and being conveyed more directly to the organs, may well propagate the contagion, without the latter, whose attributes are entirely different, necessarily doing so.

But this argument, specious in one point of view, does not, I may

fairly say, show that those who employ it have a very clear idea of the part which the blood plays under these circumstances. Its more or less vivifying properties are not here in question, for it has not to exercise an exciting or depressing action upon the organism into which it enters but a specific action. Its properties are of little consequence since it is only a vehicle. Whether arterial or venous, its difference in this respect is only to be taken into consideration inasmuch as it will allow of the propagation of the principle it contains in one direction or the other. A given vehicle sometimes neutralizes the action of a poison; but what can it ever add to it? Moreover, in the natural absorption of the venereal poison, as well as in its artificial inoculation, is it not the returning portion of the circulating system which opens a way for it, really and unfortunately only too sufficient? Is it not into the veins that all experimentary injections of poisonous substances have been made?

But, it will be said, if the *quality* of the fluid does not constitute any difference between the chances of infection run by the mother and the child, its *quantity* constitutes a considerable one. It is true that the fœtus receives everything from its mother; and if the source from which it derives exclusively the materials of its nutrition be contaminated, it can no longer elude the poisonous consequences; while the column of blood which passes from the placenta to the mother is but a very small portion of the fluids by which her nutrition is maintained. This objection rests upon a very correct datum, but, in studying the action of poisons, every one knows that we must entirely omit the consideration of the dose. A contusion is unnoticed or causes death, according as it is slight or severe. The vaccine or variolous virus, the pus of glanders or chancre, on the contrary, when the conditions necessary for their absorption are realised, produce with a drop or an ounce the same effects to the same extent.

The difficulty is further brought forward under another aspect, and it is said: the blood which flows from the arteries of a syphilitic woman reaches her fœtus without having undergone any change. On the other hand, when a fœtus infected by its father returns blood to its mother, this blood has first traversed its tissues, contributed to its nutrition, and assisted in the secretions peculiar to that age, and these various elaborations or filtrations may well have deprived it of its infecting properties. No one knows positively the result of these modifications of the fœtal blood, and it would be

rash to attempt to assign limits to their action. But it may at least be affirmed what they do not do; and I, for my part, am thoroughly convinced that they do not deprive the blood of its syphilo-genetic power, because this blood, after birth, will produce in the same subject morbid lesions (constitutional symptoms) which are eminently contagious. In a word, if the blood of the fœtus, after having traversed its capillaries and passed through its emunctories, goes on to produce in its skin lesions which, so soon as it has been born, are communicable to the nurse, why should this same blood, a week or a month earlier, be regarded as innocuous to the mother who is constantly absorbing it?

Lastly, it might still be said that the infection of the mother, when it does not break out in symptoms until after delivery, is due to the special impression which the semen of a syphilitic man produces upon the ovary. But, as I have already shown (p. 21), it is much more reasonable to attribute the contamination of the mother to the influence exercised upon her by the fœtus, than to admit this direct influence of the semen, against which all the authorities and every analogy testify unanimously. However, in whatever way it may be understood, the explanation does not invalidate the fact, nor alter in any way the importance of the diagnostic and therapeutic consequences which its possibility calls forth, consequences which I will state, if only to justify the length of such an abstract discussion.

Suppose a woman whose husband has had syphilis at a former period, has herself continued healthy. After the birth of a first and syphilitic child, her health becomes affected; she presents equivocal but alarming symptoms, which become aggravated on each new delivery, however regularly these may terminate Can it be resolutely denied that syphilis may have some share in the production of these derangements? Is it irrational to regard them and to treat them as syphilitic? Too frequent examples authorise me in insisting upon the necessity of not too readily giving an affirmative answer to this question.

B. Experience expresses itself in two ways—by authority and by facts. Custom tends, in our day, to listen to the latter only. I willingly confess that I concur in this, and can easily understand this preference in questions where phenomena easy of establishment furnish an evident solution. But in problems surrounded, like this, by

circumstances which prevent us from going beyond a mere probability, the opinions of men who draw conclusions from their practical impressions are, it appears to me, of great weight, even when the impossibility of bringing forward incontestable facts causes them to regard it as useless to relate the cases upon which those opinions are founded. This authority is especially decisive when it emanates from celebrated writers, consummate clinical observers, and representatives of the positive school. Finally, it acquires a higher value for me when two writers known to differ upon several other points entirely agree to decide here in the same sense. But I find myself in a position to furnish this proof of the reality of the infection of the mother by the fœtus. Ricord[1] wrote to me: "This opinion is not easy to prove beyond dispute; for the virtue of the women may always be more or less doubted. But in spite of the incredulity and scepticism induced by my long practice, I have been forced to yield to the evidence of facts."

Depaul, on his part, tells me that he persists in regarding the following proposition as the result of careful observation: "The mother being incontestably healthy, while syphilis could have been transmitted by the father alone, and that only at the moment of fecundation, the embryo, being for some time alone diseased, may in its turn, during its sojourn in the womb, infect its mother."[2]

The terms in which Ricord has publicly stated this view are the following: "The father may beget a syphilitic child, which may propagate the secondary poison to its mother; for the latter had continued healthy, though married, so long as she had no children."[3]

No one, certainly, will be inclined to believe that Ricord and Depaul would bring forward such a theory so explicitly without having before them numerous facts in support of it. Depaul is, I know, about soon to publish his observations. Meanwhile, I will relate the facts which have come to my own knowledge.

Mr. T— married after having had venereal affections four times, which were imperfectly treated. His health was feeble, but he had no specific symptoms. A year afterwards his wife was delivered of an apparently healthy child, which

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[1] 'Gaz. Méd. de Paris,' 1849, p. 753. This view was first brought forward by that illustrious writer on syphilis in his lectures of 1847.

[2] 'Extrait du Mémoire lu à l'Acad. de Méd.,' April 29th, 1851.

[3] The 'Lancet,' 1848, p. 384.

had, however, when three months old, a well-marked syphilitic pustular eruption. From this moment the health of Mrs. T. became precarious, and she had profuse leucorrhœa. The child died at eleven months. A second child sank at ten months. Four years afterwards she was attacked by dry copper-coloured pustules and cracks and fissures in the palms of the hands. Mr. T. not having had, since his marriage, any well-marked venereal symptoms, did not undergo any treatment, but he had two exostoses, from the consequences of which he died, further worn out by the effects of a stricture of the urethra.[1]

Mrs. P—, married in October, 1848, healthy before and after her marriage, was delivered, May 30th, 1849 (although she considered herself to be in the eighth month only of her pregnancy), of a small, but lively and healthy child.

Dr. Semanas, who had delivered her, received, some days afterwards, a visit from the husband, who came to consult him about an eruption of long standing on the hairy scalp. Dr. S. recognised syphilitic pustules there, and observed, further, alopecia and a very characteristic eruption on the palms of the hands.

Mr. P— stated that this affection, of the origin of which he said he was ignorant, dated from several months before his marriage. He did not remember having had a chancre. Specific treatment was prescribed.

The child had, when five weeks old, ulcers behind the ears and on the hairy scalp. It was emaciated, and had the expression of old age. A colliquative diarrhœa carried it off after a few days of an entirely inefficacious treatment.

As regards the mother, whose confinement terminated most satisfactorily, she was attacked about the same time as her child (which was then being wet-nursed) by numerous pustules about the nose and mouth, as well as on the hairy scalp. Two days after, similar pustules appeared on the genital organs. In the following week a roseolous eruption appeared upon the trunk and extremities. Periosteal pains and ulcers in the back of the throat afterwards supervened.

This patient, treated actively with iodide of mercury and iodide of potassium, alternately or in conjunction, was cured pretty quickly. The husband, also subjected to the same treatment, recovered somewhat more slowly.[2]

Maisonneuve and Montanier[3] regard the interpretation of these symptoms given by Semanas as *more than improbable*. To refute it, they rely:

1. On the circumstance that the morality of the mother is very doubtful, since she was delivered, *after seven and a half months* of marriage, of a child, small but healthy, and, they say, "doubtlessly at the full time." This assumption is entirely arbitrary, for Semanas does not in any way specify, in his observation, at what period of the month of October the marriage took place; and it is absolutely only to

[1] Troncin, 'De l'Extinct. de la Mal. véner.,' 1834, p. 50.
[2] 'Gaz. Méd. de Paris,' 1849, p. 777.
[3] Op. citat., p. 373.

substantiate their criticism that Maisonneuve and Montanier convert a child, reported by Semanas to have been *of small size*, into a child at the full time, and a delivery eight months after conception into one at seven months and a half.

2. On the circumstance of the husband's having had, for several months, without seeking treatment, a syphilitic eruption on the hairy scalp and on the palms of the hands!—such carelessness, they say, is not probable. Maisonneuve and Montanier have never, it appears, met with patients unconscious of venereal affection so little inconvenient as this, or who neglected to seek treatment for it. As for me, on the contrary, this want of care, in such cases, agrees perfectly with the habits of patients, at least of those I am in the habit of seeing every day.

On the strength of this double ground of suspicion, Maisonneuve and Montanier venture upon the suggestion that (although no sign or vestige of syphilis was discovered in her during the whole period of pregnancy), the mother had either been infected by her husband, or that she had herself infected him, having contracted the disease from another man.

To such a chain of reasoning we have no answer to make; for the very weakness of its arguments is but a further proof in favour of the theory which it attacks.

Tyler Smith[1] also believes that syphilis is propagated from the father to the mother, through the fœtus. He is of opinion that this occurs especially when the poison has acted upon the placenta in such a manner as to cause abortion. Then, he says, the mother is "pretty sure" ultimately to participate in the disease.

In conclusion, I will relate, as conclusive on the same grounds, the following observation which has been communicated to me by my very esteemed friend, Dr. Langier of Vienna.

Mrs. X—, of the village of C—, æt. 27, had, six months ago, a child which died at three months and a half, emaciated and covered with sores and pimples about the mouth and anus, although it had been born healthy.

Mrs. X— herself had not, either before or during her pregnancy, experienced anything which could suggest the idea of syphilitic infection. Three months after her confinement she had, as a sequel of mental troubles and exposure to cold, a febrile accession, which lasted two or three days, and after which she became the subject of very large and very numerous flat tubercles on the vulva; three weeks after, similar ones appeared at the commissures of the mouth, and

[1] The 'Lancet,' March 11th, 1854, p. 266.

later still ulcers in the throat. When Langier saw her she had, for two months, presented these various symptoms, which he recognised without difficulty as being evidently syphilitic.

This patient asserted that she had never had sexual intercourse with any one but her husband. The nurse of this child had always remained healthy.

The mother believed her husband to be healthy, but he, when questioned by Langier, confessed to having been the subject, six years before, of an obstinate venereal affection, which had left behind it for a long time disease of the throat, and had at last disappeared, in thirty or forty days, under the influence of homœopathic treatment. Since that time he had never experienced anything which could make him fear a relapse. However, during his wife's pregnancy, he had had small crusts on the hairy scalp, which continued for a considerable time and reappeared pretty frequently. He had also had some pimples of long standing in the nape of the neck and on the chest.

But at the time when Langier examined him (in December, 1852) he did not present any indication or visible trace of syphilis. He has several times had connexion with his wife since she has been ill, and no local indication of infection has shown itself in him.

Since receiving the above, I have seen a new and very conclusive instance of infection of the mother by the fœtus:

Mr. X—, of St. G—, was treated by me, in 1852, for secondary syphilis. As he was about soon to marry, he pushed the general treatment as far as I desired, and on the day of his marriage had been, for several months, exempt from any suspicious symptoms.

His wife, a young and innocent woman, became pregnant at the end of two months. Having remained healthy until the end of the third month of her pregnancy, she then had a copper-coloured eruption on the abdomen and arms, preceded by cephalalgia. No treatment; abortion at five months. When I saw her, two months afterwards, her face, neck, and arms were covered with syphilitic papulæ; she had ulcers in the throat, alopecia, chlorosis, swelling of the cervical glands, &c.

It is to be observed that the husband, much in the habit of examining himself carefully, had not, up to that time, observed any new symptom.

Besides these detailed cases, in which symptoms characteristic of secondary syphilis appear in the mother after delivery, there are other instances, less decisive, perhaps, because the syphilis does not put on its normal type in them, but which bear witness, at least, to an analogous influence exercised by a syphilitic child upon its mother. How many robust and healthy young persons do we not see, who marry syphilitic husbands and retain all the attributes of health until their first confinement? From this moment—and although the confinement has terminated happily—they become feeble and begin to lose flesh. They miscarry or bring forth syphi-

litic children. Each new pregnancy aggravates their distressing condition. Are not these consequences, which Lallemand has mentioned, which Maisonneuve and Montanier admit and describe, and which I have myself observed, an effect of the disease in the fœtus, a disease which, without vitiating the humours of its mother to such an extent as to develop in her the true syphilitic diathesis, has effected in her organism a derangement only too real?

V.—*Transmission of Syphilis from the Suckling to its Nurse.*

Primary lesions, chancres, existing in a child, may be communicated to the nurse, precisely in the same manner as they pass from the organs of a woman to those of a man, in consequence of the friction of coitus. Every theory admits the reality of this phenomenon, of which there can be no doubt.

But do the lesions of congenital syphilis possess the same communicability? In other words, and to speak more precisely: *Can a child, affected hereditarily with mucous patches on the mouth, for instance, communicate the same disease to a healthy woman by whom it is suckled?*

Hunter and Ricord, or at least some of his school, answer in the negative. But since instances of nurses infected by their foster-children exist and recur daily, they could not confine themselves to a simple negation. They have taken a more logical but more difficult position; they have sought to explain them by endeavouring to adapt to the exigencies of this proposition the theory which teaches that primary chancre alone is contagious. They boldly affirm, then, that *if a new-born child transmit syphilis to its nurse, it is because it had, itself, a primary chancre,* and, as a counterpart, that *if only hereditary syphilis, constitutional lesions, exist, it will not transmit any disease to its nurse.*

This explanation has made some proselytes, but its opponents are still more numerous. Framed with some bias, attacked not without acrimony, it has often been its fate to have to record adhesions or oppositions founded rather on personal sympathy or repulsion than on the consideration of the clinical proofs to which it appeals. And yet if ever a proposition deserved a calm discussion, it is assuredly this, the adoption of which endangers the health of thousands of nurses, if it be false; while the rejection of it, if it be

true, compromises the lives of an immense number of new-born children, by depriving them of their natural food to condemn them to the sucking-bottle. I shall endeavour, then, to forget too weighty predecessors; I shall dismiss all useless animation from the discussion, at the risk of appearing fastidious; I shall continue sceptical when necessary, without fear of being taxed with irresolution; and I shall frequently omit proper names, even though I should be reproached with want of respect for the owners of them.

Here are, first, some observations quoted without commentary. They are given solely for the better establishment of the *question of fact*, in its most general form and its principal varieties. I have, consequently, thought it right to borrow them from both schools indiscriminately.

Ambrose Parè[1] has described, in the quaint and figurative style peculiar to him, one of those concatenations of infections so common under such circumstances:

"A certaine very good citizen of this Citie of Paris granted to his wife, being a very chaste woman, that conditionally shee should nurse her owne child of which shee was lately delivered, shee should have a nurse in the house to ease her of some part of the labour. By ill hap the nurse they tooke was troubled with this disease; wherefore shee presently infected the childe, the childe the mother, the mother her husband, and hee two of his children who frequently accompanied him at bed and board, being ignorant of that malignity wherewith hee was inwardly tainted. In the meane while the mother, when shee observed that her nurse childe came not forward, but cryed almost perpetually, shee asked my counsell to tell her the cause of the disease; which was not hard to bee done, for the whole body thereof was replenished with venereall scabs and pustles, the hired nurse's and the mother's nipples were eaten in with virulent ulcers; also the father's, and the two other children's bodies, whereof the one was three, the other foure yeares old, were troubled with the like pustles and scabs. I told them that they had all the *lues venerea*, which tooke its originall and first offspring by maligne contagion from the hired nurse. I had them in cure, and by God's helpe healed them all, except the sucking childe, which died in the cure. But the hired nurse was soundly lashed in the prison, and should have beene whipped through all the streets of the citie, but that the magistrate had a care to preserve the credite of the unfortunate family."

The following observation[2] is regarded by Bouchut as one of the

[1] 'Œuvres d'Ambrose Paré,' 11th edition, 1852, p. 445. (The above English version is from an old translation.—Ed.)

[2] 'Revue Méd.,' May, 1841.

most complete which have been published; it is for this reason that I quote it here:

A woman named Ch—, previously in good health and the mother of four healthy children, took a child two months old to nurse. At the end of six weeks she observed some small pustules on the breasts, then fissures and ulcers, and swellings in the axilla. The fissures increased in size, and the ulcers resulting from them extended around the base of the nipple. A few days later this woman's own child was attacked by pustules on the face and around the mouth, then on the arms, back, nape of the neck, and chest, and about the anus. She then sent her foster-child back; and after having, together with her child, undergone an imperfect course of treatment, came to Lyons for advice. Gensoul and Leriche, having investigated the case, recognised a syphilitic affection, and prescribed a mercurial treatment, the good effect of which confirmed the diagnosis. However, when Bouchacourt examined her, he found two indurations above and at the inner side of the left nipple, one of which was still ulcerated. He ascertained that the strange child, when entrusted to the woman Ch—, had its face swollen and covered with pimples, a discharge from the nasal fossæ, and still recent violet-coloured cicatrices on the buttocks. Lastly, it was discovered that it had already, while with a former nurse, undergone a treatment consisting in bath and syrups, prescribed by the medical attendant of its parents, and that this nurse had become diseased.

Had the strange child syphilitic lesions of the mouth? Did these lesions consist of pustules, ulcers, &c.? Were they secondary, or rather primary, as the persistence of indurations would seem to indicate? Nothing whatever is wanting to this history but indication of these three circumstances to render it an available proof in favour of the old theory.

I place after this a case observed by myself, such as we daily meet with in practice, more simple, less complicated with successive transmissions:

I was requested, on the 5th of July, 1851, to treat a child of Mrs. B. Born on the 22d of April of the same year, it had had, at the end of a month, an eruption of large bullæ on the soles of the feet, the palms of the hands, and the face. Those upon the face became covered by thick, blackish crusts, which still existed at the time of my examination. I was told that it had had pustules upon the scrotum and about the anus. The mother had presented, during her pregnancy, constitutional symptoms, of which I recognised the evident characters, roscola, mucous tubercles on both tonsils, and sub-occipital ganglia. The child sank at the age of five months.

While it was being suckled, its nurse, a countrywoman, who was silly as well as little attractive, and had been two months in the house, showed me a red spot below the right nipple. About the size of a centime, little raised, and the seat of a slight desquamation, this spot caused me at first but little un-

easiness. It remained, however, until, the child having died, the nurse returned to her home.

But at the end of a month she returned, accompanied by her husband, with a general syphilitic papular eruption, ulcerated mucous patches on several parts of the mouth, impetigo of the hairy scalp, commencing alopecia, and cephalalgia. I examined her genital organs, but could not find any suspicious traces in them any more than in the sub-maxillary glands. I subjected the husband to a similar examination with equally little result, and it was sufficient to take a glance at his disfigured companion to recognise with certainty the origin of the disease, without extending the inquiry to her acquaintances. Mercurial treatment was prescribed for this unfortunate woman.

It is just to let those be heard now who deny the contagiousness of congenital affections. The few following facts will give an idea of the way in which they view the case I am now investigating:

A nurse went to consult Cullerier,[1] senior, in the course of the year 1797, complaining of having contracted syphilis from a strange child which she was suckling. The whole of her body was covered with lenticular and squamous pustules. The child, seven months old, presented as yet nothing but coryza and some pustules on the genital organs. But what tended to confirm this woman's story was, that the father of the child had had chancres during the early part of his wife's pregnancy, and had even communicated them to her. The parents therefore believed themselves to be in fault, and were willing to yield to the demands of the complainant. But as Cullerier suspected, from the nature and age of the pustules of which she was the subject, that this woman had become diseased before her foster-child, he insisted upon examining her husband. He found a large cicatrix in his groin, and induced him to confess that he had had a suppurating tumour there.

No doubt this discovery was well adapted to throw some suspicions upon the husband, but ought it to have directed them all to him? Ought not Cullerier to have examined the mother of the child, to see whether he could not recognise some more characteristic traces of constitutional infection—*possible enough from the antecedents*—than a cicatrix in the groin?

Cullerier, at present surgeon of l'Ourcine, has given me the history of a case much more conclusive in the same sense. He had received under his care a young woman, a nurse, affected with constitutional syphilis, and whose foster-child had ulcers inside the mouth. This woman accused the parents of the child, and pressed Cullerier very much to certify that she had contracted from it the disease from which she was suffering. Nevertheless, the perfect resemblance of the evolution of the symptoms in this woman to that of the affections which follow a primary chancre had inspired Cullerier with the most

[1] 'Journ. gén. de méd.,' t. lv, p. 32.

serious doubts as to the truth of her story. Before examining her, however, and better to ascertain how far, under such circumstances, patients will carry the impudence of their dissimulation, he questioned her privately on two different occasions, in the manner best adapted to assure her of the discretion which he would practise in keeping her confidence secret. She always denied positively having been affected first. After having allowed her several days to reflect and to retract what she had affirmed, Cullerier proceeded to a direct examination, and recognised on one of the *labia majora* the induration which is the indisputable sign of infectious primary chancre, quite recent. For greater certainty, he sent some one to examine her husband. It was stated, with some embarrassment, at his house, that he was absent in the country at the time. These answers awakened some doubt. By a lucky inspiration, the register of the entries at the Hospital du Midi was examined, and his name having been found, it was ascertained that it was there that he was *enjoying the country air*, under the care of Ricord.

Hunter having inscribed himself amongst the number of those who deny the transmissibility of constitutional symptoms from the child to its nurse, I cannot dispense with borrowing an observation from him also. But at the same time I cannot refrain from pointing out that it appears to me quite as conclusive *against* his opinion as the preceding one of Cullerier is *in favour* of it.

A lady, delivered September 30th, 1776, and having a large quantity of milk, suckled her own child at one breast, and a child out of the neighbourhood at the other. At the end of six weeks, the breast given to the latter became diseased; several small ulcers formed about the nipple, and ultimately destroyed it. The glands in the axilla became swollen, but their tumefaction terminated by resolution. The strange child had aphthæ in the mouth and hurried respiration. It died of phthisis, and presented ulcers on various parts of the body. The mother, after having suffered pains in various regions, had an eruption of spots on the arms, legs, and thighs, some of which ulcerated.

The sequel of the observation informs us that this lady had, three years later, a child which presented symptoms of constitutional syphilis, under which it sank at the end of nine weeks, after having communicated them to its nurse, who also died of them.[1]

Before entering upon the essence of the discussion, I wish first to call attention to a point connected with it. Those who do not believe in the transmissibility of secondary lesions are forced to explain *all* the facts of this kind by the anterior existence, unrecognised or concealed, of a primary chancre in the person infected. Their antagonists are not compelled to show themselves so exclusive; they may thoroughly admit (if they do not all do so) that a pri-

[1] 'Hunter on Syphilis.'

mary chancre may occupy the mouth of the child and be transmitted from it to the breast of the nurse; that the latter, in other cases, may have contracted it in another manner, and really owe to it the constitutional disease of which she wrongly accuses her foster-child of being the source. They recognise this, but this version, according to them, would not account for *all* the instances in which syphilis is said to have been transmitted from a suckling to its nurse. And it must be confessed that weighty considerations plead in favour of this eclectic view to which I incline, and which I am striving to render valid.

A. The *number* of these cases, independently of their quality, is a first argument of which an observer of any experience will not dispute the value. Primary chancre is an exception in the new-born child. The various modes by which it could contract one are so unnatural, unforeseen, and extraordinary, that a fact of this kind, well authenticated, is an era, it may be said, in the career of a medical man; that one must be a specialist, and a specialist in large practice, to have seen several such. On the other hand, what practitioner has not, a certain number of times, listened to the complaints of a nurse infected, as she says, by the child entrusted to her? And if, in such a case, we mount to the source, the parents almost always justify by their conduct and antecedents the suspicions of which they are the object; so that, without altogether exculpating the nurse, these first inquiries, even before the direct examination of her contaminable parts, generally suffice, according to the ordinary view, to divert a large share of the responsibility from her. To sum up, and in other terms, the *number* of primary chancres, the existence of which has been established in new-born children, is out of all proportion to the number of women who profess to have contracted venereal disease from suckling strange children.

B. So it is, generally, to a *chancre contracted conjugally or pseudo-conjugally by the nurse*, that the ultra-Ricordian school attributes the origin of the disease by which she has first been affected, and which she afterwards communicates to her foster-child. And as, in this hypothesis, they are interested in concealing their disease, and in giving rise to the belief that they have contracted it from the child, advantage has unscrupulously been taken of their position to affirm that this calculation, which they would be so anxious to make

if they were culpable, is always made by them because they are culpable. Assuredly I shall not attempt to become the pastoral defender of village morals. The student of medicine is not more subject to illusions in reference to virtue in a hut, than to austerity at court. But if debauch elude, from its very nature, every attempt to measure it by time and place, its pathological results—the sole point, moreover, in which we are interested—do not escape verification by practical men. But general observation proves that in the country, beyond a circle of from fifteen to twenty leagues round the large cities, syphilis is extremely rare. In a given canton it is, almost from time immemorial, unknown, especially amongst the women. If it commence in a household, it is almost infallibly through the husband. Well, in the midst of this calm, which the medical man can, at need, certify, syphilis breaks out in a family; and, what is still more remarkable, it passes from the children to the husband, and to the neighbours' children! But inquire into these unfortunate cases, and you will always find, without difficulty, that a strange child has been suckled by the woman who was the first victim of this sort of epidemic. Must we then assume a constant fatal coincidence, which nothing explains, which everything tends to refute, between the functions of lactation and an immorality previously unknown?

c. Have, on the other hand, the numerous causes which make the *opportunity* of contracting venereal disease so rare for these women, been taken into account? Without alluding to the respect, appropriately increased by a little disgust, with which the condition of nurse inspires everyone, is it not well known that nothing destroys more than repeated suckling the freshness and youthful appearance, advantages which the resources of coquetry do not understand replacing in this class, and in the absence of which *venus friget*, still more in the country than in cities? Moreover, their condition as nurses being for them a profession, and that the most lucrative as well as the most convenient, would they willingly expose themselves to the chances of a pregnancy, which would deprive them of this precious means of subsistence? And would not the same consideration restrain—if not all the lovers which a too courteous theory so generously grants them—at least their husbands?

I have lately had (November, 1853), an opportunity of verifying in the mass, all that is well founded in this remark. My colleague and

friend, Potton, meeting me one day on the way to l'Antiquaille, informed me that he had at that moment in his hospital practice a real treasure for the cause which I advocate. Having entered by his invitation, I had the opportunity of taking in at a glance the most perfect collection of hideous and loathsome creatures, all however nurses, and subjects of symptoms of constitutional syphilis supervening during the lactation of infected children. Although only 28, 32, 33, 34, 36 and 40 years old respectively, these six unfortunate women (of whose cases I possess the notes taken by Carier, the house-surgeon) had every appearance of fifty. Assuredly, in the face of such repulsive objects, the suppositions of our opponents would become the most flattering, but also the most improbable gallantry![1]

D. The *seat* of the first symptoms which present themselves inspires me with still more distrust of the opinion which refers their origin to a primary chancre. As a general rule—apart from all theory—it is almost always in the mouth of the child and on the breast of the nurse that they are first observed. But how are we to explain this frequent appearance of primary chancres in these two situations? I know that the child may have contracted them *during labour*, or by impure kisses. I know that Ricord has seen a nurse take chancres on the nipple from the well-meant aid of a person, herself the subject of chancres in the mouth, who had offered to unload her breasts by means of suction. But such instances have only the value of those rare cases which are registered in the annals of science to render diagnosis more circumspect, by showing what unexpected difficulties may accidentally occur. They cannot—without a tendency to that generalisation of which the public mind appears to me to grow more and more unwilling to become the accomplice—pretend to furnish the sole explanation of all the facts of this kind. And there is not, I believe, a single practitioner who will not open his eyes and guess on which side the exaggeration lies, when he is told that, to deny the transmissibility of constitutional symptoms from the child to the nurse, it must be admitted that, in every case in which it is believed

[1] Putegnat ('Journ. de Méd. de Chirur., et de Pharm. de Bruxelles,' 1853, p. 26) gives a still more striking aspect to this argument. In speaking of a nurse infected in this manner, he says, "Apart from his morality, where is the man who would have dared or been able to forget himself, even for one poor moment, with her, so lank, so repulsive from her ugliness and filth?"

that syphilis has been propagated from one to the other, the suckling had contracted a primary sore in the mouth, or the nurse had contracted one on the breast, independently of lactation.

E. Another not less serious difficulty exists. A primary chancre, especially one which has conveyed infection, and, above all, one which has not been treated specifically, *leaves visible traces.*

Ricord will not be the one to dispute this principle, he who has so well shown the significance of induration, and regards its presence at the base of an infecting chancre as an absolute law. But what most frequently happens is this: a child is intrusted to a nurse, and the parents, although formerly diseased, are honest. They would not have given it to her, neither would the nurse have accepted it, if it had been supposed to contain the germs of syphilis. On both sides there is no alarm, so much the more since the symptoms do not generally present themselves in the child until after a lapse of some time. Even when they appear, nothing having as yet awakened any suspicion, their syphilitic character almost always remains unrecognised. The same holds good for the first symptoms which appear in the nurse; and it is not until mucous patches, roseola, and pustules break out that she becomes alarmed, and consults a medical man. Thus it is correct to say that the symptoms earliest in date, whether in the child or in the nurse, have almost always remained without treatment. Now the reasoning which I adopt, and which appears to me irresistible, is this: If the lesions were primary chancres, we should, on being called upon to examine the places they had occupied, find in them cicatrices with the characteristic induration. But nothing of this kind occurs. If they are healed, the spot where they had existed differs in no appreciable way from the neighbouring parts; and if they still exist at the time, it is not a chancre that is met with, it is most generally a mucous tubercle.

To this latter argument the school of which I am speaking has its answer quite ready; an answer based, I admit, upon an appreciation, as exact as it is ingenious, of the phases which chancres may run through to pass from the state of a primary sore to that of a secondary lesion. "The chancre," they say, "becomes transformed *in situ* into a mucous tubercle, so that, when the observer comes somewhat later—(and I confess that this is most commonly the case with the transmission of syphilis to nurses)—he finds only a mucous

tubercle where, a few days sooner, he might have verified the presence of a primary chancre." I repeat that I admit the exactness, and comprehend all the practical bearings of the observations made by Ricord upon this subject previously unnoticed. But, in this special case, his too absolute application of them gives rise to some grave objections. I am not speaking of the boldness required to maintain that the observer has *never* arrived in time to see the chancre otherwise than metamorphosed.[1] And yet, the remark which I am making has all the more force because every case of this kind would necessitate, for the explanation of the above theory, that the observer *should overlook at once two chancres,* one on the child, the other on the nurse;—two chancres originating not simultaneously, but successively;—two chancres implanted in structures entirely different; which could not both have passed away without leaving some appreciable traces behind them.

But there are other still more conclusive considerations against the exclusive interpretation of transmissions from suckling to nurse by the transformation of a chancre *in situ.* Thus:

According to Ricord, every primary chancre which has caused infection must have been an indurated chancre.

But I, on my part, say that a chancre which becomes converted into a mucous tubercle is very certainly an infecting chancre, since it furnishes on the very spot itself the proof of its properties in this respect. Consequently, such a chancre must be an indurated chancre.

If then, at the spot where the nurse asserts that her disease, which has ultimately become general, commenced, we find no induration—if we find none although no mercurial treatment has been employed—may we not, opposing the authority of Ricord himself to the too explicit conclusions of his hasty supporters, ask them upon what they found their assertion that a chancre has existed in that situation?

F. The *suppurating bubo* is almost entirely wanting in the list of symptoms of congenital syphilis. Does not this furnish a strong presumption that chancres are not so common, at an early age, as is contended?—It will be answered: "If suppurating bubo be rare in children affected with constitutional syphilis, it is precisely because the chancre which produces the syphilis is not accompanied by sup-

[1] I quote further on (*see* p. 170) cases in which the examination was made a month and even only three weeks after the first appearance of the lesions.

purating buboes." The proposition is exact, but is not an answer, for I have only asked—why, in children, if they be so subject as they are said to be, to contract primary chancres, do we never see these chancres produce suppurating buboes? Are they then condemned, when they thus contract a chancre, always to have an infecting, that is to say, an indurated one? This would indeed be ill luck; but even this would not decide the question against me. For if these chancres are all indurated they ought all to leave visible traces. But I should then repeat the question already put: do we very often find, in these cases, well-marked indurations?

G. The *progress* of the disease and its *high degree* of contagiousness furnish so many further signs of separation between the syphilis of nurses and that of adults generally, and consequently authorise us to attribute it to a different origin. Sometimes, it is true, the first lesion, that of the nipple, long remains the only one. But in many cases, on the contrary, it is seen to be followed, almost immediately, by constitutional affections; these break out in different parts of the body without a period of incubation or latency having preceded their development, as is the case with a primary chancre. Lastly, there is not so long an interval between the secondary and tertiary phenomena as in adults generally. This is not, however, I admit, an important difference. Far be it from me to attempt to maintain that all the manifestations are here confounded and the order of their appearance reversed. No; I merely wish to state that we observe a more early and rapid succession of the ordinary phases of the disease.

It is especially in persons *mediately* infected by the nurse that this more rapid course of the symptoms is met with. Striking instances of this kind will be found a little further on.

H. As regards the *contagiousness of this congenital poison,* unless we assume gross, constant, and unanimous misconception on the part of all the writers who have related instances of it, it appears equally fearful and incontestible. I have already shown above (see p. 131) that this property may very reasonably be regarded as one of its prerogatives. But here,—a very rare occurrence among the facts which induction ingeniously essays to predict,—experience exceeds the previsions of theory. All observers have pointed out the propagation of the symptoms by the slightest contact from the new-

born child to the nurse, or from her to her children, her husband, her relations, and her neighbours of all ages; so that it is not uncommon to see two or three families victims to the presence of a single syphilitic suckling. Having witnessed these evils, several medical men have even exaggerated the consequences which may legitimately be drawn from them, by supposing that this special poison increases gradually by its own progress. The most enlightened, and without doubt one of the least enthusiastic, the learned Colles, writes thus:[1] "The members of the nurse's family may also contract the disease, and more easily than she; for this disease seems to acquire more force the further it becomes removed from its first origin."

Inoculation has shown, in the hands of Sperino, the contagious property of the congenital poison, existing even at its second transmission, that is to say in a nurse who had taken it from a new-born child, infected hereditarily. This is the interesting case which I translate literally from the work of our learned and conscientious fellow-labourer at Turin.

D. Gioanna, married, thirty-five years old, of lymphatico-sanguine temperament and good constitution, entered the syphilitic institution January 15, 1851, with ulcerating mucous tubercles on the nipples. She had taken them, two months previously, from a child which she had taken to nurse from a cook in that city. At the end of six weeks of suckling the child died of marasmus, covered with an eruption the character of which the nurse could not recognise. Before its death, some papulæ had appeared upon her nipples to which she did not pay any attention at the time.—This woman had not had any venereal disease previously.

On the 17th of January some pus taken from the mucous tubercles on the breasts was inoculated on her right thigh, at two points, with a needle[2] which had not been employed for a similar purpose before. On the 23d,—six days after the operation,—redness appeared at the points of inoculation, accompanied by itching. On the 24th, two small papulæ had risen up at the centre of the red circles which had appeared on the 23d. On the 20th, two fresh inoculations were effected on the left thigh with the pus of the ulcerating tubercles on the breasts. On the eighth day redness appeared at the points of inoculation; and on the following day two papulæ were observed there.

On the 20th of January the papulæ developed as the results of the inoculation of the 17th were covered with a thin crust, on the removal of which a superficial erosion was observed. The small quantity of pus secreted there was

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[1] 'On the Ven. Dis.,' 1837, p. 285.

[2] This instrument, which Sperino uses by preference, is a lancet-shaped needle a millimetre and a half broad, with a groove running its whole length.

carefully collected and two points upon the left thigh inoculated with it.—Seven days after this inoculation two small tubercles developed themselves at these points. The mucous pustules produced by these various inoculations continued about twenty days, counting from the date of their appearance. They died away spontaneously, without either general or local treatment, leaving on the part which they had occupied a copper-coloured mark, but without any cicatrix.

The tubercles on the nipples, dressed with Labarraque's liquid, also gradually disappeared, leaving marks of the same colour as those upon the thighs.

On the 25th of February there appeared upon the upper and lower extremities and upon the trunk numerous copper-coloured papulæ, from two to three millimetres broad, without pain or itching, which were diagnosed as a papular syphilitic eruption. It was proposed to allow this eruption to develope itself freely, before commencing mercurial treatment, when, on the 2d of March, acute iris of the left eye supervened, which called for energetic antiphlogistic treatment. After having subdued the acute condition, recourse was immediately had to mercurials, both externally and internally, and on the 15th of April the woman Gioanna left the hospital cured.[1]

1. As regards arguments drawn *from clinical experience,* nothing would be more easy for me than to multiply facts in support of this view. I shall quote three only of the best authenticated and

[1] 'La Sifilizzazione studiata qual mezzo curat. e preserv.,' Torino, 1853, p. 25. I have suggested already that the congenital poison possesses, in my opinion, a high degree of contagiousness. A recent fact, the exact counterpart of that of Sperino, will furnish us with the experimental demonstration of this theorem. In the beginning of February, 1854, Rodet, my present successor at l'Antiquaille, inoculated fluid taken from mucous tubercles at the angle between the penis and the scrotum. The inoculation was first effected in the thigh of the patient himself, a young man who had had, a short time before, a primary chancre; then in the thigh of another individual, the subject of cancer but free from syphilis. Several punctures were made in each subject, and a piece of linen soaked in the same fluid was left for some hours on the places, the greatest care being taken to protect the part from everything which could have furnished a mechanical impediment to the success of this therapeutical experiment. At present, two months and a half after the day of inoculation, nothing of a syphilitic character has appeared, either in the one or in the other, at the points of puncture or elsewhere.

Combined with other actual proofs collected by Ricord, and compared with Sperino's preceding case, this observation proves, as it appears to me, the vast difference which distinguishes the same lesion, in relation to its contagiousness, according as it springs from a *congenital* or a *chancrous* source, since we see the success, in the hands of the Turin practitioner, of the inoculation by the lancet of a fluid which, when it is taken from a sore similar in appearance but dissimilar as to its origin, furnishes Rodet with a negative result only.

most conclusive on account of the veracity and perfect competence of those by whom they have been observed.

In March, 1844, Petrini treated an illegitimate child which had been intrusted to a country nurse. Its parents had remained unknown; but it was ascertained that its mother had had constitutional syphilis when she gave it birth. Very weak and ill-developed, this child soon became affected with ulcers in the mouth and throat, and with copper-coloured spots on the whole body. It died at the age of three months. The nurse, accusing the bad quality of her milk of being the cause of the wasting away of her foster-child, frequently gave it to two of her friends to suckle, two sisters, who were also nursing. After a little while they both presented ulcers on the nipples, then on the genital organs, with periosteal pains. They communicated ulcers to their husbands. At last, seeing that their own children, previously healthy and robust, began to get weak, these two women requested Petrini to examine them. The latter, convinced of the morality of his two patients, had no difficulty in ascertaining the origin of the disease. The children of these two women, in spite of the remedies employed, sank under the effects of ulcers in the mouth and throat, and of deep-seated tubercles. The two husbands were cured by a simple local treatment. As for the two mothers, the one was cured by Dzondi's mode of treatment; the other was treated in the hospital of St. Jaques, at Rome, where she had an attack of iritis which deprived her of the sight of one eye. The nurse herself remained intact in the midst of this fearful propagation of symptoms. Petrini convinced himself, after a period of two years, that she had never up to that time had any syphilitic affection.[1]

The second case will show us the extension of this transmission assuming the proportions of a genuine epidemic.

A foundling in Brussels was placed with a woman named Hauwaert, at Alsemberg. After some time she had an affection of the breasts, and as they were distended she had them drawn by her son, who was ten years of age. He succeeded so well in this that several other women, having occasion to take advantage of his talent, applied to him for the same service. Several of them became infected in this manner, amongst others a woman named Demol, who contracted ulcers on the breasts. Being herself nursing, she communicated to her child, which was being suckled by her, excoriations on the lips and in the mouth. Being ignorant of the nature of these ulcers, she accidentally gave the breast to the child of her sister, named Deraw. A short time afterwards this latter child had chancres in the throat and venereal pustules on the body; the mother also had chancres in the throat and on the breasts, and moist pustules in the vulva and about the anus. Her eldest daughter, having put into her mouth the spoon with which she had been giving some broth to her young brother, also became infected, and contracted ulcers in the throat. The hus-

[1] 'Il Raccogl. Med.,' July number, 1850.

band, having cohabited with his wife, became affected with flat pustules and a chancre in the throat.

Seutin, passing through this commune, and informed of the disease which was preying upon several of its inhabitants, submitted all the persons infected to a strict and minute examination. He concluded from it that the author could be no other than the boy Hauwaert, the victim, as well as his mother, of the foster-child brought from Brussels. And, in fact, when this boy came to be examined, he was found to be the subject of a vast indurated chancre in the throat, and of a perforation of the palate, the consequence of an eroding ulcer.[1]

Joly, after having related this history, adds (in the same Journal, 1853, p. 316), "I have narrated these facts from the account given by the members of council of hospitals themselves. All this had been verified by an inquiry instituted by them."

A soldier having returned home, relates Dr. Facen,[2] communicated syphilis to his wife. She became the mother of a child, which presented, a few days after birth, symptoms of the same disease. It had, especially, ulcers of the mouth, and died.

The nurse to whom it was intrusted contracted the same disease from it, and could only be cured by mercury. A child which she was suckling also became infected, and was in great danger. The mother of this child soon presented signs of very intense constitutional syphilis. A young girl of eighteen, who had had the care of this latter child, had, in consequence of her relations with it, pustules first about the mouth, then in the vulva. Her health was restored by mercury.

The mother of the second child had taken another foster-child. The disease developed itself in it, and it infected its sister, a girl of ten years of age, who attended to it, and who, probably from kissing it, presented symptoms, first about the mouth, and then on the genital organs.

The mother of these last two children, æt. 50, having had much intercourse with them, had herself symptoms for the cure of which anti-syphilitic treatment was necessary.

Thus a single child sufficed to infect seven persons, directly or indirectly, and most seriously!

I am aware how much carelessness, want of cleanliness, an ignorant feeling of security, frequent and close contact, may have acted in such cases to multiply the transmissions. But in spite of all these circumstances I cannot refrain from putting this simple question once more to those who deny the communicability of congenital syphilis: Is this rapid and extensive propagation of the disease, which is almost certain when an infant at the breast is concerned, very often met with when only one of the primary chancres of adults is the first source?

[1] 'Journ. de Méd., Chirur., et Pharm. de Bruxelles,' 1853, p. 92.

[2] 'Gaz. Méd. Lombarda,' May number, 1849.

I expect to be answered that a man affected with chancre knows the danger of contagion, and does not expose to it those who approach him; that he is not brought into necessary and constant relation to them like the nurse; that he may live and be treated apart; in a word, that the sole cause of the great frequency of these transmissions lies in the very nature of the contacts which the cares of nursing require, and not in a difference of the lesion which is the agent of them.

This is more than a mere specious objection; it has a real value. And although it has already been discussed incidentally in the course of the preceding considerations, it merits a more direct investigation. I shall answer by two observations to the argument contained in it, which will suffice, I think, to prove that, in some cases at least, it is not a chancre, but a lesion very evidently secondary, which has been the starting-point of the affections transmitted.

A woman of very correct habits, whose husband was equally irreproachable, took a child of seven weeks old to nurse, in December, 1843. Eight days after, the thighs and buttocks of this child became covered with a syphilitic eruption. At the end of two months the mouth began to present symptoms of the same kind.

The woman, continuing to suckle it, had a fissure in the breast a few days after the mouth of the child had become affected. The fissure continued to enlarge, and when she was admitted into the hospital, June 1st, 1844, there was an ulcer at that spot as large as a plum-stone, with irregular and somewhat everted edges. Egan inoculated the pus from this ulcer under the skin of the arm. The patient complained of pain in the throat, but no ulceration could be discovered there. The child was treated and cured by mercury.

On the 17th of June the ulcer on the breast was rapidly decreasing in size. The inoculation of June 1st had not produced any result.

The patient went out June 30th, cured of this ulcer; but a short time after an eruption of copper-coloured spots appeared, then pustules upon the buttocks and thighs, and condylomatous tubercles in the vulva. Treatment with iodide of potassium removed these symptoms, but she afterwards suffered a fresh relapse in the form of ulcers in the throat.[1]

Here inoculation, the best criterion, showed that the ulcer communicated to the nurse was not inoculable by the lancet; therefore it was not a chancre. But, it will be objected, this fact, very conclusive in one sense, is absolutely without value for the elucidation of the theory you advance. It proves, we admit, that this ulcer was

[1] 'Dublin Quarterly Journal,' 1846, p. 337.

of a constitutional and not of a primary character. But who assures you that the nurse had not herself contracted syphilis in the usual way, and that this ulcer was not, in her, the consequence of a primary chancre which had existed previously? This distrust is severe, but it will not appear excessive to any one who knows how cautious it is necessary to be in admitting proofs of this kind. Fortunately I am in a position to satisfy it by the relation of a second case in which the most vigilant control was exercised over the nurse both before and during lactation.

Mr. P— communicated a chancre to his wife while she was pregnant. Baumès,[1] being consulted, treated them both with Van-Swieten's drops and sudorifics. Mrs. P— had, nevertheless, copper-coloured papulæ on the forehead and ulceration of the tonsils. She was afterwards delivered of a child which, healthy at birth, was given to nurse to a servant who had been seduced and had gone into an institution to be delivered. Baumès examined this woman before the child was intrusted to her, and found no signs of venereal disease, either on her genital organs or on any other part of her body. She was carefully watched, and did not go out except with the mother of the child. Eighteen days after birth, the child had spots on the buttocks, chest, and cheeks, in the centre of which there appeared a pustule which terminated in a round ulcer, having every appearance of syphilitic ecthyma. The nurse continued healthy for twelve or fifteeen days, but some irregular-shaped ulcers, with a grayish base, then appeared around both nipples; a similar ulcer invaded the commissure of the lips; flat tubercles (moist pustules) manifested themselves at the anus, and furfuraceous copper-coloured spots on various parts of the skin.

Treatment by baths of bichloride of mercury, to which was added, for the nurse, the administration of Van-Swieten's drops, cured them both.

Cullerier (see p. 195) was able to verify the healthy condition of the breasts and genital organs of the nurse *eight days* before the syphilitic symptoms, which she had contracted from her foster-child, appeared on her.

In other cases, not less conclusive, it is not *before* the appearance of ulcers on the breasts, but *immediately after their commencement* that the genital organs of the nurse have been examined, without any traces of the primary chancre having been found which the opponents of congenital transmissibility assume necessarily to have existed there. Bardinet has largely contributed to clear up this truly important side of the question by numerous observations conducted with every possible care. I shall quote one, less for the purpose of bringing forward in support of my view material proofs which his just reputation for veracity renders superfluous, than to give the

[1] 'Précis théor. et prat. des Mal. vénér.,' t. i, p. 169.

reader an idea of the manner in which he has proceeded in this very delicate investigation.

A woman named R—, took a child to nurse for the first time on the 19th of April, 1845: she kept it thirty-five days, and then, after having restored it, in a healthy condition, to its mother, took a second on the 24th of May. Healthy at first, this latter child had, at the end of fifteen days, redness on the scrotum and about the anus; ten days later, large pimples appeared upon its whole body; lastly, towards the end of June, it presented an ulcer of the upper lip, which, in spite of cauterization, persisted and continued to enlarge.

The nurse continued to suckle it, and, about the 8th or 10th of July, observed an ulcer upon her left breast; on the 16th of July, having no longer any doubt as to the cause of her disease, she sent the child to the Limoges hospital.

Bardinet and Dr. Bleynie examined it together, and found that it had: 1st, a large ulcer on the upper lip; 2d, small dry pustules on the face; 3d, copper-coloured spots and small ulcers covered with a crust: the last two lesions were distributed over the whole surface of the lower half of the body. The ulcers gradually increased in size and depth, and the child died on the 28th of July.

Wishing to ascertain the condition of the nurse as soon as possible, and by direct examination, Bardinet went to the place where she was living, on the 31st of July, accompanied by Dr. Tuilier, head Physician to the Limoges hospital. They there began by examining the nurse as well as her husband: neither of them had, about the mouth, or throat, or genital organs, or elsewhere, any recent ulceration, or any trace of old ulceration; the husband had, however, several times had connexion with his wife since the ulcers had appeared on her breasts; the nurse had not even leucorrhœa, or any inflammation of the vulva; at that time, the breasts were the only parts affected; there existed upon them some grayish ulcers, having well-defined edges, round the nipples.

To verify their nature more completely, Bardinet caused these ulcers to be dressed with simple cerate only, for a month, without any internal treatment. They grew worse and increased to double their former size.

Having then entered the hospital, on the 1st of September, she was treated with mercury externally and internally; but, at the end of three days, her vulva became covered with mucous patches. On the 21st of September, thanks to the continuation of the treatment, they, as well as the ulcers on the breasts were beginning to yield. On the 15th of October, this woman went out cured, but was advised to continue the treatment. She returned in two months, the neglect of this advice having caused an eruption of copper-coloured spots, of tubercles on the hairy scalp, and a large ulceration at the back of the throat. Strict and long-continued treatment was required for the cure of these affections.

In a woman, named T. H—, infected by her foster-child, and who afterwards infected her own child and another foster-child, Joly, although a still visible cicatrix on her breast showed, conformably with her own declaration, how the poison had reached her, wished to complete the certainty by an ex-

amination of the husband, which, he informs us, furnished negative results only.[1]

Lastly, Bergeret,[2] still more favoured by circumstances, had the opportunity of examining a nurse and her husband, three weeks after the appearance of pustules and ulcers on the scrotum, perinæum, buttocks, and thighs of a strange child which she was nursing. In spite of a minute examination, it was impossible to find in either of them the least apparent trace of venereal disease. By the advice of a medical man, who affirmed that she had nothing to fear, this woman continued to suckle the child, but ulcers appeared upon its lips. The nurse then contracted ulcers on both breasts. Later on, she had some in the mouth and vulva, and a mercurial treatment of two months' duration was required for her cure.

It was, probably, some similar facts which suggested to Ricord these words, the exact and most recent expression of his view, but too often parodied or exaggerated by careless or over-zealous transcribers: "Remark well," he says ('Lettres sur la Syphilis,' p. 170), "that I do not absolutely reject this mode of transmission from the foster-child to the nurse, and from the nurse to the foster-child. I only say, without leaving the field of strict observation and of the exact analysis of facts, that the existence of this mode of transmission is not yet proved."

I congratulate myself and feel honoured by agreeing with my teacher and friend in such terms; for I have no difficulty in acknowledging with him that, amongst the clinical facts advanced in proof of this mode of contagion, there is not one which is thoroughly demonstrative; there is not one in which the daily observation of the symptoms, on the one hand in the nurse, her relations, and those around her, on the other, in the child, its *fathers*, and mother, renders it evident that symptoms really constitutional have passed from one to the other. Only—and in this I regret to differ from Ricord—I am inclined to think that if the *conclusive fact* be wanting, *probable facts* abound, and that to such an extent as to make up, by their number, for the absence of the former. I feel again called upon to point out that the circumstances under which they have been collected plead strongly against the signification which Ricord has felt justified in giving them. Lastly, and especially, I cannot refrain from remarking that, if there be a doubt, the safety of families would be far better consulted by my solution than by that towards which he leans; since, if the latter were erroneous, the adoption of it would become

[1] 'Journ. de Méd., de Chirur., et de Pharm. de Bruxelles,' 1853, p. 611.

[2] 'Moniteur des Hôpitaux,' Dec. 3d, 1853, p. 1157.

the source of fearful disasters; the former, if it be false, having no other disadvantage than the imposition of some superfluous precautions.

It has been sought to decide the question in a different manner. The cases in which the suckling of an infected child has been effected without the nurse becoming diseased have been quoted. And from these observations, brought forward by Ricord, Cullerier, Chailly, and Bassereau, the distinct conclusion has been drawn that the contagiousness of congenital affections is a chimera! Amongst the *satisfied* to whom I am alluding, Maisonneuve and Montanier deserve to stand in the first rank; for, after having quoted the observations of Cullerier, they declare, on two separate occasions, "that they leave no doubt . . . . . that doubt is no longer permitted."[1]

For my part, I shall only invoke a principle raised by unanimous consent to the rank of a law, by calling to mind that, in questions relative to contagion, negative facts are never admissible, except as simple presumptions. Of twenty persons who visit an individual affected with smallpox, fifteen, at least, escape contagion. Is the contagion to be denied on that account? Three young men expose themselves with the same person, under conditions apparently perfectly identical: two become victims; the third continues healthy. Will it be asserted that blenorrhagia is not transmissible? Will artificial inoculation itself, in which all the circumstances favorable to the success of the operation are at the disposal of the experimenter, never fail? And could the non-contagiousness of the pus of a chancre be inferred from its rare failures? Certainly not; for we recognise that, as regards transmission from one individual to another, the result is subject to certain elements which can neither all be known nor all combined in one experiment; and, in spite of the reassuring example of a danger incurred three or four times with impunity, we certainly should not dare to ensure against all risk the imprudent person who exposed himself to it for the fifth time.

But let us, as is very necessary, examine more closely these observations, which furnish so strong an argument in the opinion of some writers on syphilis. I am astounded when, after having read their conclusions, I examine the bases upon which they rest. These

[1] Op. citat., pp. 380 and 381.

facts related by Cullerier, *which allow of no doubt*,—which ought, it is said, greatly to counterbalance the thousand histories of infectious lactation daily furnished by experience;—these facts are *six* in number! ('Union Médic.,' April, 1854.)

Independently of their small number, a first and very weighty objection to the signification given to them, I take two other exceptions to these observations.

In the first place, three only of these children had syphilitic lesions of the mouth.[1] Is it, then, surprising that the other three could not become the cause for their nurses of an infection which, apart from cases altogether exceptional, only acts by the contact of the nurse's breast with a mouth ulcerated either in its cavity or its circumference? And as regards the three nurses who resisted the contagion in spite of the presence of buccal symptoms in the children, analogy, as well as the most simple reason, explains this accidental immunity. Whether from the effect of a closer texture of the nipple, or from that of ointments and ablutions (which no one, not even Cullerier, could blame them for having employed freely under such circumstances), they will have succeeded in keeping the inlet for the admission of the poison closed; and their immunity does not surprise me any more than that of the man who, thanks to a more resisting epidermis, or from the effect of cleanliness, comes out unsoiled from the same place in which his immediate predecessor had contracted a chancre.

Two of the facts already quoted in the course of this work may throw light upon this subject. Vassal mentions a nurse who,

[1] A great number of facts, brought forward as proofs of the non-contagiousness of these affections, equally apply to foster-children who, although syphilitic, had no disease of the mouth, and remained free therefrom during the whole time of suckling. Can we be surprised, then, that contagion had not occurred under such circumstances? Bardinet has rendered a true service to science and to practice in showing that, most frequently, congenital symptoms commence in the new-born child at the genital organs or anus, and do not attack the mouth until later. He has also quoted striking instances of lactation remaining without danger so long as the mouth of the child continues intact, and becoming infecting so soon as symptoms manifest themselves there, then ceasing to be so when the mouth was healed, although evident syphilitic lesions still persisted at the time on other parts of its body. The late appearance of symptoms about the mouth deserves to be pointed out to the practitioner. He will find in it both a hint not to assert the certain harmlessness of lactation commenced under favorable auspices, and the propriety of allowing a syphilitic child to take the breast so long as the disease has not attacked its mouth.

while suckling a child which was covered with tubercular pustules, contracted the disease in the form of pustules on the *labia majora*. "Her breasts," he says, "were sheltered from the infection, although the child had chancres at the commissures of the mouth."[1]

Is not this an exact repetition of the three cases to which Cullerier takes exception, without, I believe, having sufficiently reflected upon the objections to which they give rise? The nipple remained intact in the case of this nurse, as in his; and it is very probable that, if some mediate touch had not eventually brought her vulva into contact with the fluid poured out by the pustules of her foster-child, this would have been regarded as an additional negative fact. Upon what, then, do such cases of exemption depend? Nothing shows it better than this example—upon the chance circumstance of an unusually firm structure of the nipple, and upon the accidental or preconcerted absence of all relations with the diseased organs of the foster-child.

Petrini's case, quoted above, shows still more clearly the efficacy of this cause of immunity. To supply the place of its usual nurse, two women occasionally gave the breast to an infected child. They both contracted the disease, while the usual nurse escaped it, and Petrini asks himself why the latter remained intact! I presume, for my part, that, warned by the progress of the symptoms (and perhaps by some information concerning the antecedents of the child), she knew what to think of their nature, and took precautions against the danger, while her friends, less apprised, went on suckling without adopting the prophylactic measures usual in such cases.

Such also, I suspect, is the true reason of the negative facts collected by Cullerier. Experiments, especially when they are opposed, like his, to a strong prejudice, are not submitted to by the ignorant and timid persons who are the subjects of them so passively as is generally believed. And when we consider the disgust they would inspire, the fears which they must occasion for the nurses, and the active co-operation which, to be carried out strictly, they require on their part, is it not easy to foresee the deceptions which they must have practised to evade the performance of them, and the resistance, or at least the indifference, which they brought to the fulfilment of the conditions?

[1] 'Mém. sur la transm. de la Mal. vénér.,' p. 50.

My second objection might have allowed me to dispense with the first; for it suffices to nullify these experiments of Cullerier. In fact, it is formally specified in his work that, in the six observations which I am now examining, it was a question "of infected children whose nurse-mothers had remained healthy." This single expression *nurse-mothers* decides the question. For if it is proved that a syphilitic child cannot communicate the disease by lactation *to its own mother*, it becomes evident that, for the proof of the non-transmissibility of congenital affections to the nurse, Cullerier has selected the very nurses who were inapt to contract these affections. But this privilege of the nurse-mother really exists; and as it constitutes at the same time one of the most interesting points of this study, I shall be excused for explaining it at some length.

Colles,[1] was the first writer who, in 1837, proposed as a constant rule the observation that "a new-born child affected with congenital syphilis, even although it may have symptoms in the mouth, never causes ulceration of the breast which it sucks, if it be its mother who suckles it, though continuing capable of infecting a strange nurse." Baumès made the same remark in 1840, which he expressed in these terms: "A mother having carried in her womb a syphilitic child, whose infection is due to the semen of the father, does not, in general, contract venereal disease from suckling that child, as a strange nurse might do."[2] Egan, in 1846, confirmed the reality of this observation by personal experience.[3]

This rule is conceivable, and might easily be predicted from the data of the theory alone; for it is nothing else than one of the applications of the law of *oneness* of constitutional syphilis. If it be constant that syphilis never declares itself twice successively in the same individual, a woman who has given birth to an infected child is, from the sole circumstance that she has already had the disease herself, incapable of again contracting it from that child. I say that she has had it herself. In fact, this child can only have received congenital syphilis from its father or its mother. If from its mother, what I have advanced is proved without going any further. And if from its father, then the infecting influence of the fœtus upon its mother finds (independently of other reasons which

[1] 'On the Vener. Disease,' p. 385

[2] 'Précis théor. et prat. des Mal. vénér.,' t. i, p. 180.

[3] 'Dublin Quarterly Journal,' May, 1846.

confirm it), in the inaccessibility of the latter to contagion from suckling her child, one of the most powerful arguments that could be desired. For this inaccessibility is not a mere hypothesis; it is a result of experience, established by the assent of the reliable authorities I have quoted. And if the theory explain this inaccessibility, the latter in its turn serves as a proof of the theory; while this perfectly logical reciprocation between a rational prevision, which borrows from experience the means of passing to a state of reality, and an actual fact, which only appeals to reasoning for its explanation, cannot be put down as an argument in a vicious circle.

Exceptional cases are nevertheless met with in authors. Anxious to ascertain myself the value of *Colles' law*, I have sought out these cases, and convinced myself that they contradict it in appearance only. The succinct analysis of each of them will suffice, I think, to impart this conviction to the mind of the reader; and it may serve, at the same time, to show clearly within what limits I purpose to confine the application of the principle itself.

In the first and most numerous class, the course of things is this: A mother who is suckling her child accidentally intrusts it to another nurse who is diseased. The child contracts the disease from the latter and then communicates it to its own mother. The case related by Ambrose Paré is an instance of this mode of transmission. In that by Facen, quoted above, it is in the same manner that syphilis developed itself in the mother of the child, which had been infected by the nurse of the first child, the cause of all the evil. Bertherand[1] saw a lady, the subject of most marked secondary symptoms from having carried to her lips the spoon of her child, which had contracted syphilis from a nurse, herself infected by a strange foster-child. Lastly, Bertin[2] also speaks of a case of transmission from a child to its mother. But, from information obtained, and from the nature and progress of the lesions, it is certain that the child had contracted a primary chancre, out of its home, with suppurating bubo, symptoms which might well render it capable of contaminating its mother, who had previously been healthy. All authors, however, have taken the same view of these cases as I do here.

In all these instances, the exception to the rule established above

[1] Op. citat., p. 335.
[2] Op. citat., p. 77.

is evidently unreal. The mother was not previously diseased. It was neither from her nor from her husband that the child received the infection. No condition of immunity, then, was possible for her; and she contracted the disease absolutely as any other person might have done who had intimate and frequent relations with an infected child.

A second class may be formed of the women who, suckling their own children, become infected without the latter having presented any symptoms.

Cusack[1] saw a child which had symptoms of constitutional syphilis. Its mother, who suckled it, contracted an ulcer on the nipple. So stated, the case would appear to offer a flagrant infraction of *Colles' law*. But on inquiring closely into the successive concatenations of the circumstances, the author learnt that the child had incidentally been suckled by another nurse infected with syphilis; the mother said further that it had not had ulcers in the mouth until after she herself had had some on her breast.

The child, therefore, had in this case been, for the mother, the agent of this mediate contagion, the mechanism of which has only been well studied in our days by Ricord and Cullerier, but which Catanée[2] had already alluded to positively. It communicated syphilis to its mother; but only because none of the causes which Colles had in view existed in her to render her refractory to the contagion proceeding from her child.

In the third class, I place two cases in which the nurse-mother and the child both presented constitutional symptoms. It appeared then that the latter might have furnished the source of the disease.

But on further inquiry, it was ascertained that the symptoms had not appeared in the child until after they had shown themselves in the mother.

Veré-Delisle[3] saw a woman, three months after delivery, and who was suckling her child, contract syphilis characterised by ulcerations within the *labia majora*. Her child "*soon* had" venereal pustules and ulcerations at the margin of the anus. It was cured by the indirect treatment.

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[1] 'Dublin Quarterly Journal,' 1846, p. 337.

[2] These are his words on this subject: "Quarta causa poterit esse coitus cum sanâ cum quâ de proximo coïverit infectus, semine adhuc in matrice existente."

[3] 'Arch. gén. de Méd.,' April No., 1830.

Mrs. N—, of irreproachable habits, says Viani,[1] returned from Egypt to Italy, to her husband, in 1838. She was delivered of a child which she suckled at first. Syphilitic ulcers appeared on her nipples, although she was ignorant of being the subject of this disease. She then gave the child to a nurse who was soon attacked, as were a second and a third, by well-marked syphilitic symptoms.

As it is not mentioned that the child had presented symptoms before its mother, it appears extremely probable to me that the disease proceeded from the latter, and that she had contracted it from her husband, whose habits, *less irreproachable* perhaps, had doubtless not been able to withstand the prolonged absence of his wife. In these two cases, therefore, it appears very probable that far from receiving the infection from her suckling, it was the mother who communicated the disease to it. We shall see further on (Part IV, Medico-legal bearings) an observation borrowed from Bardinet, in which a mother, who at first accused her own child of having infected her during lactation, afterwards confessed that it was in herself that the disease had, on the contrary, commenced.

Lastly, this rule, like every other, must have its exceptions. The following observation by Cazenave is the only one which I have met with. And even here it may be asked whether the symptoms in the mother were not due to an infection proceeding from her husband, and whether, consequently, their appearance after those in the child was not an accidental coincidence rather than an effect connected with its cause.

A woman named C—, æt. 30, had never had any appreciable primary symptom. Her husband had been infected, and her last child, which she had suckled, died of an eruption which the mother described as similar to that of which she had been the subject at the time of her admission into the hospital Saint Louis. At the death of this child, she had had milk-abscesses, then ulcers on the nipples. From that time she enjoyed good health then, under the influence and at the period of menstruation, she observed an eruption of copper-coloured spots on the arms, soon surmounted by vesicles which, drying *in situ*, produced small brauny scales. Cazenave recognised therein a vesicular syphilitic eruption, which afterwards spread to the neck and forehead. In this latter situation, she presented also some non-ulcerating syphilitic tubercles.

But, I repeat, it would be necessary to ransack very diligently the annals of science to discover a fact equivalent to this one. We are, therefore, fully justified in asserting that:

[1] 'Gaz. méd. Lombarda,' Jan., 1849.

A child born syphilitic through the agency of its parents, never communicates the disease to the mother who suckles it. The extreme importance of this law in reference to treatment will, I hope, appear a sufficient justification of the development which I have felt called upon to give to the preliminary remarks. For the syphilitic new-born child frequently cannot find any other breast than that of its mother; and in spite of the generous impulse which would doubtless induce many of these to confront the risk of contagion, it is nevertheless something to their families to know that they may expose themselves to it with impunity.

The most interesting point in connection with the transmission of syphilitic symptoms from the suckling to its nurse, is the very fact itself of this transmission. After having discussed it, nothing remains to be pointed out but a very small number of circumstances connected with it. It would be useless to enlarge upon the conditions which favour it. They have already been pointed out relatively to the infection of the child by its nurse, and are absolutely the same here. The following example show how little prolonged the relations between the two individuals need be to enable the disease to propagate itself from the one to the other.

A nurse, says Campbell,[1] took on the afternoon of Sunday a syphilitic child, which had already been treated and was believed to be cured by the iodide of potassium. She perceived that it was still ill and, to avoid contagion, returned it to its mother on the Thursday. Despite this precaution she nevertheless became affected with well-marked constitutional lesions, first on the breasts and afterwards on the whole body.

A woman named G—, who had bean sent for to Lyons to suckle a child, observed it to be covered with pimples, and refused to give it the breast longer than *three days*. Although she had always enjoyed good health and had had six children, which were also quite healthy, she observed, three weeks after this short nursing, three large pimples round the nipple with swelling of the glands in the axilla. At a later period she had cephalalgia, alopecia, papulo-squamous eruption, and ulceration of the tonsils; lastly, mucous patches on the genital organs.

When she was admitted into the hospital de l'Antiquaille, Doyon and Dron were able to verify the existence of most of these symptoms. But she also brought her own little boy there, a child of fifteen months old, and who, having been healthy previously, contracted an affection of the mouth after having sucked the diseased breast of his mother. Under the observation of the medical attendant, this child had, during its stay in the hospital, an eruption of mucous patches at the commissures of the mouth, and afterwards spots of

[1] 'London and Edinb. Monthly Journal,' 1844, p. 515.

roseola over the whole body. Both mother and child were cured by mercurial treatment (*op. citat.*).

It would be incompatible with the plan of a monograph devoted to the syphilis of new-born children to follow the succession of the symptoms and the progress of the disease in nurses. I shall dwell upon one point only of its description, *the glandular swellings* which they present. Nothing is more common than to see in nurses infected through the breast, enlargements of the lymphatic glands in the corresponding axilla. Mahon [1] had already observed this and regarded it as being almost a general rule; and most of the observations which I have verified have furnished examples of it.[2] Could this import that the lesion upon which such enlargement depends was a primary chancre? not in the least. If such were the case, if these glandular swellings presented the same pathogenetic conditions as buboes produced by primary chancre, they ought to assume the same semeiological behaviour; they ought, especially, to suppurate occasionally. But the absence of suppuration is, on the contrary, one of their constant, pathognomonic characters, as Egan [3] has formally expressed it, and as may be seen in the cases related above. The frequency of these enlargements is explicable, I think, in another way. It is only one of the applications of this great result of observation, viz.: that *the poison of syphilis when it invades the organism of an individual, always determines a process of reaction in the first gland which it meets with in its course, manifested externally by the enlargement of that gland.* Thus:

If chancre, in the adult, does not infect the constitution without having produced a bubo more or less indolent;

If, as was stated above, cervical buboes are almost the only ones observed in infants infected during lactation; and if they are only observed in those in whom syphilis has commenced by lesions of the mouth;

[1] Op. citat., p. 440.

[2] The indolence of these swellings sometimes prevents women who are the subjects of them from paying sufficient attention to them. I saw, quite recently (January 16th, 1854), a nurse infected through the breast, who answered my question on this point by saying that she had no tumour under the arm. On pressing in the axilla I discovered a glandular swelling of the size of a large nut.

[3] 'Dublin Journal,' p. 345.

If the fœtus, contaminated by the blood of its mother, frequently presents, in induration of the liver, the ætiological equivalent of the glandular induration which accompanies infecting chancre in the adult;

If, in a child which has contracted the disease through the nurse's milk, we see tables (a rather common complication, according to Bertin, of congenital syphilis) representing the engorgement of the first glands situated in the course of the fluid which serves as a vehicle for the poison;

If, lastly, in observations of the development of syphilis in the adult by the inoculation of constitutional lesions, Wallace (with proper reservation as to the value of these experiments) has observed engorgements occurring in the glands which correspond to the point of puncture;

Assuredly, I am fully justified in offering the preceding remark as the expression of the mechanism to which nature constantly subjects herself in such cases, and the axillary engorgement in nurses infected through the breasts as one of the exemplifications of this general formula most easy of comprehension.

Of the symptoms in a new-born child, that which most frequently serves as the agent of transmission of the disease to its nurse is the mucous tubercle, especially the ulcerating mucous tubercle. This depends: first, upon its being the most frequent of all the constitutional lesions peculiar to this age; secondly, upon its furnishing the most abundant liquid secretion; lastly, upon its always being the first, or one of the first in date in the order of appearance followed by the various syphilitic manifestations in new-born children.

As regards the lesion by which the affection commences in the nurse, this point has not yet been so clearly determined. It might be made the subject of a very interesting inquiry. But to undertake it would be to depart from the plan traced out for me by the programme of this work. I shall merely repeat that I have seen (p. 156) a papular spot, *not in the least degree ulcerated*, present the initial lesion in a nurse, the starting point of the constitutional syphilis which she had contracted from her suckling.

VI.—*Transmission of syphilis from the new-born child to indifferent persons.*

The nurse, having the most frequent and intimate relations with the child, is naturally especially exposed to take the contagion from it. But other persons may equally contract it by simple accidental contact with the parts affected. This proves that, like chancrous pus or blenorrhagic secretion, the communication of this poison is favoured by warmth, sanguineous congestion, and nervous erethism of the organs upon which it is deposited, but that no one of these conditions is absolutely indispensable for its propagation from one individual to another.

It is, above all, to the young persons who attend to the child, who carry it in their arms and caress it (instinctive anticipation of the cares of maternity), that the symptoms are most frequently transmitted. The two observations by Facen and Petrini, like that of Ambrose Paré, and that of Cazenave, have already furnished us with examples of this. But the most advanced age does exempt from these risks. The case mentioned by Egan, in which he saw an ulcer resembling a chancre develop itself on the neck of a woman of sixty at the spot where, having previously pricked herself with a pin, she had kept the mouth of a syphilitic child applied, has been quoted much too often to be reproduced here. But, from the paucity of the details supplied by the text, it is impossible to decide whether anything else was transmitted than a primary chancre.

The following facts appear to me much more conclusive:

A woman who had contracted syphilis during her pregnancy, bore a child which she committed to the care of a woman of sixty. The latter frequently put the spoon from the child's lips to her own.

The child was healthy at birth. But Starck having seen it again at the end of five months observed symptoms of constitutional syphilis in it. As regards the old woman, he found in her an eroding ulcer at the isthmus of the throat, the septum of the nose destroyed, and nodes on the tibia and on one fore-arm. She and the child were both cured by the use of specific remedies.[1]

Waller relates that an old woman of seventy contracted syphilis from an infected suckling. He states that the symptoms first developed themselves on

[1] J. Starck, 'Edinb. Med. and Surg. Journal,' 1851, p. 366.

the left cheek and left side of the neck, where she was in the habit of holding the child when she wished to quiet it or to put it to sleep.

The transmission of syphilis to persons of such an advanced age supports very strongly the theory which I advocate; for we may here safely deduct coitus and its sequelæ from the number of the causes which might have misled the observer. I will relate an analogous case quoted by Bardinet. It refers to a child born of parents who were both syphilitic, and which, two months after birth, had ulcers on the genitals and in the mouth. It first infected a strange nurse. Then the child's own grandmother, who attended to, fed, and often kissed it, contracted specific ulcers in the throat which, not having been treated, had existed four years at the time when she was examined. "It is true, adds the conscientious doctor of Limoges (but I have not been able to make out whether it is an innocent piece of raillery which he addresses to his opponents), it is true I did not examine the genital organs of this grandmother!"

Doyon and Dron saw, at l'Antiquaille, an old woman of seventy, who had contracted mucous tubercles on the lips, from having tended and fed a child which her daughter, aged thirty-three, was suckling. This daughter had herself been infected by the child, which died when three months and a half old, its body being covered with an eruption of copper-coloured papulæ. As for the mother, when she entered the hospital (September 27th, 1853), she presented, in addition to the state of emaciation and debility which dated from the commencement of the syphilitic poisoning, ulcerating mucous tubercles on the lips, especially the lower lips, and others upon the tonsils, anus, and vulva.

Lastly, to conclude what refers to these senile infections, numerous enough as is seen, I will call to mind the case observed by Loret,[1] in which a spoon carried from the mouth of a diseased suckling communicated the syphilitic affection to the nurse, to the mother of this nurse, then to her daughter, thus poisoning, in the same family, three generations.

I introduce here the history of a case, very simple in itself, but which I have felt bound to quote, because I can bear witness personally to the authenticity of it:

Marie M—, æt. 37, was admitted into l'Hôtel Dieu de Lyon, December 2d, 1852. Ten months before, this woman took into her house a child which had been given to her to wean. She remembered having often eaten with the same spoon as the child. After some weeks she observed that she had ulcers in the mouth, between the cheek and the lower dental groove. They have continued

[1] 'Procès-verb. du Congrès de Nantes,' p. 136.

there, with some variations, in their present form: long fissures of a diphtheritic character. At the end of three months, an eruption of copper-coloured papulæ appeared on the back and on the anterior surface of the thorax; it was soon accompanied by cephalalgia, the returns of which were especially intense at night. To these were added two large red pustules at the margin of the anus, the surface of which, she stated, was always moist.

At the end of five months, her husband contracted ulcers in the mouth, which still exist, without any trace of a lesion on the penis.

The patient was examined carefully; she presented no cicatrices or swellings in the groins. The genital organs were healthy. She has had, since her illness, enlarged glands under the lower jaw; but they have not suppurated, and have scarcely given her any pain. These glands are at present of the size of a small pea.

This woman was treated internally with proto-iodide of mercury. Calomel was strewed upon the mucous patches about the anus, and the ulcers in the mouth were touched with nitrate of silver.

She began to improve about December 10th; the ulcers in the mouth and the mucous patches were already sensibly modified.

On the 20th of December she was cured of these symptoms, and wished to go out, promising to continue the treatment for a month.

She stated positively that the mother of this child had had the same disease. A former nurse had already taken the infection from it.

As for the child, it is at present twenty-eight months old; but it is lank, emaciated, and has the appearance of a child of only six months old. Since she sent it back to its parents, she has learnt that they have put it under treatment, but it is still so weak that it cannot walk.

In these various cases, the contagion has not always been conveyed directly from the child to an indifferent person. An infected person often becomes the intermediate link between the first source and individuals more or less closely connected with him. In such cases, it is not observed that the disease contracted by contact with a person who has received it from a new-born child differs, in respect to its severity, from that received immediately from the new-born child itself.

Colles maintains that in these multiple transmissions, "the symptoms in the different individuals resemble each other exactly, which does not hold good for the ordinary syphilis of adults." This shrewd observer has, I believe, here been the dupe of an illusion, since facts by no means establish the constancy of such a similarity. If it appears to exist in the greater number of these cases, it is because the symptom most frequently transmitted is the mucous tubercle, and because, being the same, it ought, in fact, to be reproduced in the person infected with characters identical to those which it presented in the infecting person.

PART IV.—MEDICO-LEGAL BEARINGS.

ELEMENTS OF THE JUDGMENT OF AN EXPERT.

If a child born under normal conditions of health strengthen the ties which bind its parents either to each other or to society, one whose origin has been contaminated by syphilis often becomes, on the contrary, the source of dissentions and serious evils in families. So long as the impression produced by such an event is confined to suspicions or recriminations, the office of the medical man is purely confidential; and I have already, in more than one passage, endeavoured to define exactly the course which he ought then to pursue in order to promote the true interests of his patient without violating any of his duties. But when the tribunals require his opinion, he has only to state the truth. It is, then, the nature of his duty as a witness or an expert that we have now to determine.

I shall not speak of the outrages which libertines are sometimes led to perpetrate upon poor defenceless children. The mechanical lesions and the inoculations of syphilis which may result from them are not more difficult to verify in the new-born child than at a more advanced age. It suffices that the attention of the medical man is called to the possibility of an act so monstrous, to induce him to take it into account when he has to determine the origin of any venereal affection in the infant at the breast.

I must also pass over the question relative to the actions for divorce, for which the birth of a syphilitic child sometimes furnishes grounds. This proof of bad conduct in the husband or the wife has never much weight in the eyes of magistrates, first because it furnishes evidence of an isolated fact only, and not of debauchery which has become habitual; further and especially, because it is

usually very difficult, and very frequently impossible to discover, by the inspection of the new-born child, from which of the two parents the hereditary disease of which it bears the marks proceeds.

The most usual subject for a judicial inquiry is when a child, intrusted to a strange nurse, presents, after a certain time, signs of syphilis. Then, if the parents believe themselves to be healthy, or represent themselves as being so, they accuse the nurse of having communicated the disease to the child, and consequently claim damages from her. But the nurse, finding herself infected, believes or pretends to believe that it proceeds from her foster-child, and demands, first or in retaliation, an indemnity from the parents. But these two opposite and irreconcilcable interests, bearing upon the same fact (of which they strive to the utmost, each in an opposite sense, to pervert the slightest details), give rise to difficulties which are still more increased by the uncertainties and dissentions of science on this special point. The laws on this point are also far from being developed, and without aspiring to fix them I may hope to render some service by applying to the solution of so grave a problem the data acquired in the foregoing researches.

To assume dissimulation and bad faith everywhere is a painful office; it is, however, the one which the expert must resolutely undertake here, if he would ascertain on which of the two sides innocence lies; for it is not enough, in such a matter, to divide the blame equally between the two parties. This tendency would be out of place. In fact there is always a victim as well as a culprit here. And to proclaim the truth, when he can, is a mission which the man of science cannot conscientiously decline, even if his professional duties did not render it a strict obligation. Let us examine then, in succession, the various elements which he will have to take into account in this inquiry, and above all, let us endeavour to determine their exact value.

I.—*Morality.*

Although we must never affect an uncourteous scepticism on this point, certificates of morality and analogous statements ought not to have more than a very slight influence on our minds. Syphilis is neither always the result of a fault, nor always the consequence

of disease in the parents or the nurse. A neighbour or a servant may have infected the child. What would then be proved by the best established virtue of those who have had direct relations, whether of kindred or nursing, with it? In this class of considerations, on the contrary, I shall concede some importance, as a presumption of culpability, only to the flagrant and averred *immorality* of one party or the other.

II.—*State of health, previous and present.*

This question is divisible into two heads.

A. *On the part of the parents.*—The venereal symptoms which have existed in the father or the mother are usually already effaced at the time of delivery. They are so, *a fortiori*, when, at the end of one or two months, symptoms begin to be developed in their child. They are so still more when the nurse, having contracted them in her turn, lodges a complaint, and causes the inculpated parents to be submitted to an examination. If we reflect, moreover, that the latter, knowing themselves to be in fault, have had ample time to obliterate the accusing lesions, we shall understand that the most minute inspection, made at this period, could not, when no discovery has resulted from it, legitimately be invoked by them to prove that their health was good at the time of the conception of the child.

We find these motives for distrust fully appreciated in a verdict of the tribunal of Tulle, of December 22d, 1841, reported by Bardinet.

Mrs. Mon—, being affected with syphilis, and conscious of the fact, gave her child to two nurses in succession. They both presented, first ulcers on the breasts, then well-marked symptoms of general syphilis. Mrs. Mon—, against whom an action for damages was brought by the second nurse, Marie N——, affirmed that she had never had venereal disease, but only a tettery eruption; and, to prove the sincerity of her words, she urgently demanded to be examined. But her delivery, from which all the evil originated, had occurred twenty months previously, and she had been attended by two medical men at that time. The court therefore rejected this plea on the following grounds:

"In consideration that, on the demand of an examination of the woman Mon— by medical men, the long period of time which has elapsed since the origin of the facts, and the treatment employed, do not admit the hope of any useful or certain result from this measure;"

The sentence, founded chiefly upon the knowledge which the parents Mon—, warned by the misfortune of a first nurse, had of the dangerous state of their child, condemned them to pay a thousand francs damages to Marie N—— and costs. It was confirmed, on appeal, by a decree of the court of Limoges.

The medical man must especially be on his guard against the apparent good faith of the parents, who declare and maintain with as much emphasis as apparent candour, that they are incapable of having contaminated their child. This candour is not always feigned; the husband may misinterpret the significance of certain freaks of his youth, of which he has lost all recollection; the wife has sometimes had, unperceived, a small vaginal or uterine chancre, which has been concealed by *leucorrhœal discharge*.

But the parent who can, in all truth, answer for himself or herself, is not in reality so justified as he or she imagines in offering a guarantee of the health of the other. Sometimes also, and Ricord[1] has related an instructive instance of this, the real father is not always the one supposed; and, to discover him, this sanitary inquiry would sometimes have to be carried out through a whole regiment of cavalry.

All this must not prevent the medical man from proceeding to the examination of the parents; for if the negative result of such examination does not positively exonerate them, it may still throw some useful light upon the question. By pressing them with questions, by enlightening their ignorance by means of an exact description of the symptoms with which they are supposed to have been affected formerly, avowals are sometimes elicited which facilitate an amicable arrangement. The minute examination, not only of the genital organs, but of all the regions which serve as sites for the vestiges of syphilis, the neck, the throat, the groins, the palms of the hands, &c., frequently possesses the same advantage.

B. *On the part of the nurse.*—The nurse is placed in circumstances much more favorable for the discovery of her disease. In the first place, she cannot, either at the time when she takes charge of the child or afterwards, refuse to allow herself to be examined as often as is required. Secondly, as soon as the suckling becomes diseased this is perceived; and, as the nurse can also be examined, there is much more chance of discovering the disease in her if she communi-

[1] 'Treizième Lettre sur la Syphilis.'

cated it. Lastly, the seat of the lesions in the child indicates the spot where they may be expected to exist in the nurse.

The causes which may render this examination fruitless must not, however, be lost sight of. The nurse is sometimes cured, and that without any appreciable traces, at the moment of examination. In other cases (of which Bertin and Cusack have given examples, see p. 41), the nurse has been only the mediate agent of contagion, the principle of which has been deposited upon her nipple by another infected foster-child, to be taken thence by the child in question. Further, if the milk of the nurse be capable of infecting the child she is suckling, she may, in this manner, infect it at a time when, although herself the subject of a syphilitic *dyscrasis*, she does not present any symptoms which can reveal to the medical man the existence of the disease at a former period. Lastly, the contagion may proceed from some indifferent person who has had relations with the new-born child; and although the transmission may have taken place in the house of the nurse, and although she ought then to be, to a certain extent, responsible, it is clearly not by her act, and she might be examined in vain for material proofs of culpability. The husband ought always to be examined.

III.—*State of health of the persons exposed to contracting syphilis from the same source as the infant at the breast.*

A child is accused by its nurse of having communicated syphilis to her. The parents, to exonerate themselves, allege that its mother had previously suckled it with impunity; that consequently, as it had not infected her, it could not have infected the nurse. But such an argument could not have much weight in presence of the numerous examples quoted above, which establish, according to Colles (see p. 176), the special immunity of the mother from contagion proceeding from her own child.

The legal advisers of the parents, or those of the nurse, sometimes imagine that they can discover something in the state of health of the brothers or sisters of the suckling wherewith to confirm their assumptions as to that of the latter. If the former have syphilis, they say the latter had it also, and has been capable of transmitting it. If they have it not, the suckling is exonerated from all responsibility, and the accusation falls back upon the nurse! We have

already found, in the preceding chapters, matter for refuting such arbitrary conclusions. Between two syphilitic children, another may be born healthy of the same parents, and *vice versâ*. Treatment has corrected the diathesis; or it has disappeared by virtue of its tendency to spontaneous decrease. These are so many facts, the demonstration of which I hope is at present complete for the reader.

A child born with syphilis sometimes communicates it to other persons than her who gives it the breast; or it infects one nurse and spares another. The observation by Petrini, already quoted, is an instance of this. It warns the medical expert never to conclude from the circumstance that one or more nurses have remained intact, that another may not have contracted the disease through her relations with the same child. Nothing is constant or compulsory in reference to contagion: I have stated this already, but this is quite a fitting place to repeat it in.

IV.—*Nature of the symptoms.*

In the eyes of certain writers on syphilis, this order of considerations would suffice most frequently, in itself alone, to decide the opinion of the expert. Nothing but mucous papulæ is found upon the child; it therefore has not transmitted the disease! The nurse also might often claim the benefit of this non-contagiousness of secondary symptoms; and, what is strange, constitutional syphilis well and duly characterised would thus confer upon its victim inviolability against any prosecution of this kind!

But at this rate, in spite of the ever increasing number of victims, there would be scarcely any culprits more; for it is the mucous papula, whether ulcerated or not, which is met with almost constantly in the nurse or the child, as the first lesion resulting from transmission. And primary chancres, the only contagious symptom according to this theory, exist in a very small minority of cases only in either of them. Forced to resort to explanations to render all the facts in its systematically restricted expression intelligible, the theory has recourse to the assumption of chancres unobserved, forgotten, or concealed, to transformations *in situ* of chancres into mucous tubercles, to chancres given to the nurse by another than the child. This is not the place to repeat what has been answered above on the subject of these various interpretations. I, who

believe in the contagious property of congenital mucous tubercles, will merely say:

1. That when we observe a lesion of this kind in the nurse, or in the child, we cannot safely conclude that they have been unable either to communicate or to contract it.

2. That the mucous tubercle partaking, under these circumstances, of the contagious power of primary chancre, its demonstrated presence in either of the two suspected individuals becomes, on the contrary, a presumption that the syphilitic communication has been effected in that way.

I have to add that, congenital symptoms being much more evidently contagious than those which result from chancres, if the nurse has propagated the disease with which she is affected to several persons, there are some reasons for inferring that she had herself contracted it, not by coitus, but through her relations with an infected suckling.

V.—*Seat of the symptoms.*

When a nurse is infected through lactation, it is almost always in the breasts, and especially on the nipple or areola, that the disease first appears. Bardinet, who has established the truth of this semeiological view by numerous cases, has employed it most usefully in the following case.

An unmarried mother, Anne R—, presented herself with her child of four months old, which she was suckling, stating that she had been infected by it.

The breasts presented no lesion of the nipple, areola, or surrounding parts. They were merely covered with mucous tubercles in the fold which they form at their lower part, where they join the chest. Ulcers and mucous pustules existed also in great number at the entrance to the vulva. As for the child, it had an ulcer on the upper lip and chin, and dry eruptions upon some other parts of the body.

Bardinet, judging especially from the peculiar seat of the mammary pustules, did not hesitate to tell the girl R— that she was trying to deceive him. She ended by confessing her falsehood, and admitting that she had been ill before her child.

Although, in this particular case, no judicial proceedings were to be feared, it shows what assistance an expert might, when a dispute of this kind arises, gain from the strict principle so judiciously propounded by the learned professor of Limoges.

VI.—*Comparative date of the symptoms in the nurse and in the infant at the breast.*

This datum, when it can be strictly determined, decides the question of two suspected parties: if one is convicted of having been attacked first, that one is evidently the culprit. The circumstances which might rob this element of certainty of its diagnostic value are so rare that they may, in a general point of view, be left out of the account. It would be very exceptional indeed that the same subject—the nurse, for instance—should first contract a chancre in the usual way and afterwards receive syphilis from her suckling. And yet the possibility of such a coincidence must not be overlooked.

But it is not usually thence that spring the difficulties of ascertaining which of the two subjects has first been attacked. Most frequently the complaint is not made, or at least does not lead to a medico-legal examination, until several months after the commencement of the symptoms in the second person infected. And then the difference of appearance dependent upon the difference of date has had time to disappear; for if it be easy to distinguish lesions of eight days' standing from those of a month's, it is almost impossible to make the same distinction when some of them have appeared two and others three months before. A man of large experience will, however, sometimes be able to draw the most lucid inferences from the determination of the period which the disease has reached in the child and in the nurse who suckles it. Here are two instances, one tending in one direction, the other in the opposite, taken from the notes of a man whose profound knowledge and cautious judgment no one will dispute.

A woman who had ulcers and tubercles on the breasts, and the whole of whose body was covered with lenticular and squamous tubercles, went to consult Cullerier.[1] Her suckling, at seven months, had nothing but coryza and some pustules on the genitals. Cullerier pronounced, from the nature and standing of the symptoms in the nurse, that she had been infected before the child contracted the disease. This judgment was so much the more commendable because appearances seemed to invalidate its correctness; for the father and mother, having had chancres at the commencement of the pregnancy,

[1] 'Journ. gén. de méd.,' t. lv, p. 32, 1816.

believed themselves culpable. Cullerier asked to see the husband of the nurse, discovered a large cicatrix in his groin, and obtained from him an admission that he had previously had a suppurating tumour there.

Notwithstanding my respect for the authority of Cullerier, I cannot see in his sentence the characters of an unassailable evidence. Was the difference between the lesions in the child and those in the nurse sufficiently great to justify him in inculpating the latter on the evidence of a mere cicatrix in her husband, and to exonerate the parents in spite of their explicit avowals? The second case is proof against these objections.

Cullerier[1] was asked to examine a child of seven weeks old, affected with incipient pustules on the *labia majora* and about the anus. The nurse, examined the same day, presented nothing morbid, either about the genital organs or nipples. Eight days later, she returned with the parents of the child, having then some ulcers on her breasts. They accused her (not, by their own account, having any disease themselves) of having infected their child. Cullerier, remembering that, a week before, he had found her nipples perfectly intact, although, at that time, the suckling was already affected, declared that the contagion did not proceed from the nurse. Tardy confessions on the part of the father afterwards explained the case in accordance with this version of it.

In spite of the strong probabilities which result from these estimates, it must not be forgotten that the more active vitality of the child may precipitate the progress of the symptoms in it, and shorten the period of their incubation. With the appearance of an equal standing, therefore, the syphilitic lesions in it ought to be looked upon as more ancient than those in the nurse.

Another eventuality might supervene to shake the conclusions drawn therefrom, viz.: the possibility of a mediate contagion. In the second case, just quoted, if the nurse had had venereal poison deposited upon her nipple by another child, might not the one in question have contracted it by the mouth, and then present specific symptoms before the disease became manifested in the nurse, without her having been the agent of the infection. Fortunately, such coincidences are very rare.

VII.—*Absence of primary symptoms.*

Constitutional syphilis in the adult always commences, it is said, by a primary chancre. This chancre, it is further asserted, leaves

[1] Ibid.

visible traces for a long time. Therefore, if a nurse and the child suckled by her both present constitutional symptoms, while no vestige of primary symptoms is observed upon her body, it may be concluded therefrom that it is her foster-child who has infected her, and not she it! I am astonished to see, in the following observation, a similar consideration dictating the sentence of a court.

A little girl, covered with an eruption regarded as syphilitic by the medical authorities of the hospital at Meaux, was at nurse, at La Ferté, with Mrs. F—. This woman, having had consecutively pain in the breasts, then ulcers, and afterwards angina, with ulceration of the back of the throat, was examined together with her husband, and did not present any old or recent traces of primary syphilis. The medical authorities of Meaux concluded, from this, that the syphilis had been transmitted to her by her foster-child; and the tribunals, called upon to pronounce upon the injury done to this nurse, awarded her damages to the amount of two thousand francs.[1]

Without doubt the judgment of the magistrates was founded upon other points in the evidence; but the medical experts, called upon to pronounce exclusively upon the scientific question, ought not to have forgotten, first, that chancre is so far from being the sole origin of syphilis that, according to their own declaration, this woman had contracted it from her foster-child—that, consequently, she might have received it from a second child, or from another person *congenito-constitutionally* infected; secondly, that, even assuming a chancre to be the necessary starting-point of syphilis, a small cicatrix, especially if old, lost in the folds of the vulva or the back of the throat, might very well have escaped the most minute examination.

Nevertheless, the absence, verified as far as possible, of previous chancre in the nurse, affords a pretty strong presumption in favour of her innocence. It would be as unjust to refuse this evidence any place, as to raise it to the first.

VIII.—*Presence of primary symptoms.*

In a very large majority of cases, the most scrupulous examination does not lead to the discovery of any chancre, either in the child and its parents, or in the nurse and her family. Sometimes, however, one of them presents either a primary ulcer, or the characteristic persistent local or glandular induration. Must we,

[1] 'Gaz. des Hôp.,' 1851.

then, declare culpable the individual who thus appears to carry with him his own condemnation? Beyond dispute, a chancre proves that there is transmissible disease; but before being transmissible, it has been transmitted; search then: it is often by going back to the most remote sources that you will discover the true origin. The conduct of Cullerier in the following case is instructive.

The president of the Court of Vacations, says he, sent to me a nurse who complained of having contracted the venereal disease from a foster-child. In fact, she presented constitutional symptoms of it, and stated that she had previously had ulcers in the mouth and on the breasts. The child, which was a year old, had a round superficial ulcer on the inner surface of the upper lip, and a similar one on the perinæum. These ulcers had the characters of primary venereal disease.

I drew up my certificate in the following terms: "In consideration that I have not been able to verify the state of the disease at its commencement, either in the nurse and her husband, or in the child and its parents, it is impossible for me to determine absolutely whether the child has given or received the disease."

The tears of the nurse had, at first, disposed me to place confidence in her; but as she said that her daughter, aged fourteen, had also been infected by this child, I had her brought to me. She had ulceration of both tonsils, and a large tubercular pustule on the left *labium majus*. On examining her more closely I found some ulcers on the interior of the *labia minora*, the hymen torn, and the vagina rather large. She admitted, moreover, that she had had sexual intercourse. It is probable, therefore, that it was she who, being affected with chancre, had communicated it to the child, on the mouth and perinæum, while washing it.[1]

While correcting the proof sheets of this work, the following case has revealed to me, in reference to this question, a singular association of circumstances very capable of embarrassing the practitioner and of causing the magistrate to hesitate.

Mrs. W— consulted me, in the course of the month of January, 1854, for a series of symptoms, the concatenation of which she thus described to me. Married fifteen months, she had about the middle of her pregnancy some pimples on her genital organs (her husband confessing a previous venereal affection, but of which he believed himself cured at the time of his marriage). Dr. D— submitted this lady to a treatment consisting chiefly in pills, and told her she had nothing more to fear either for herself or for her future child. She has in fact, since continued fresh and healthy.

Delivery occurred at the full time. The child, which was healthy, was given

[1] 'Journ. gén. de méd.,' loc. citat.

to a first nurse. But as it did not seem to thrive with her, it was taken away at the end of three months, and intrusted to a woman named P—, living at H—. At that time the child, though weak, had not, according to the account of its mother and the new nurse, any apparent trace of disease. What then occurred? I have not been able to obtain very exact information on this subject, either from one side or the other. But two months after the change of nurse, the woman P— found herself in a state which rendered medical advice necessary; and it was then that she was brought to me, with her foster-child, by the mother, Mrs. N—.

I verified in the nurse a recent cicatrix, not indurated, immediately beneath the right nipple, about the size of a franc piece; an indolent tumour in the axilla; mucous tubercles of the throat and vulva; hoarseness of the voice; impetigo of the hairy scalp and alopecia; extreme debility; pallor and emaciation; absence of swellings in the groins; no visible traces of primary chancre on the genital organs.

The child, then five months old, and covered with yellow spots upon the chest and trunk of the body, as well as on the arms, had large separations of the epidermis on the legs, feet, and hands. The tumid abdomen, the extreme emaciation, the frequent refusal to take the breast, and the almost incessant cries, made me fear some visceral affection, and predict an early death. The child still had some ulcerated mucous tubercles at the commissures of the mouth.

I subjected the nurse to the administration of iodide of mercury, and iron; she recovered pretty rapidly. As for the child, suspecting induration of the liver in it, I prescribed nothing in the shape of specifics except mercurial frictions in the right hypochrondrium, to be renewed very frequently; further, the ingestion of a little beef tea and goat's milk, which its residence in the country made it easy to obtain. At present, March 24th, it appears to experience the good effect of these measures; at least it is still alive, although the most unfavorable prognosis, and at a very early date, had been formed by all who had seen it.

But let us return to the medico-legal point of view. The woman P— pretended that, not only had the child N— given her the disease, but that she herself had afterwards transmitted it to her husband. I did not express any doubt as to the possibility of the fact, but merely asked to verify it for myself. The husband therefore came to me on the 23d of February. But what did I find in him? Two chancres in the groove behind the *glans penis*, almost cicatrized, but *manifestly indurated*, with the characteristic double inguinal accompaniment, and already mucous tubercles on the tonsils. When questioned by me, he sought to repeat the accusation brought against the infected foster-child; but it did not require a long conversation to make him cast down his eyes, and to prove to him that this assertion, which was but an error on the part of his wife, assumed, when coming from his lips, the dimensions of a lie.

The *seat* and the *aspect* of the chancres in the husband P— are evidently opposed to their being accepted as the effect of the transmission of a congenital lesion. To me it appears indubitable that

he had contracted them through an improper extra-conjugal coitus. But, evidently also, his wife has received, during lactation, contagion by the agency of her foster-child, which was infected hereditarily.

The husband and wife P— claim an indemnification from Mrs. N—. The latter, informed of my views with regard to the husband of the nurse, now shows herself little disposed to yield. Let us suppose that the tribunals are asked to settle this question. Let us suppose that, irritated by this state of things, Mrs. N— is induced (as so often happens) to deny everything which cannot be proved against her, to retract what she had at first admitted concerning the disease in her husband and the pimples on the vulva which she had during her pregnancy. Let us suppose, further, that a clever lawyer, initiated into the views of Ricord's school, has undertaken to prove that the husband P— has been, at one and the same time, the *primary* and the *first* culpable party! I should then, I confess, greatly fear that the substance would be sacrificed to appearances, and that the judges, believing themselves to be deciding quite equitably, would not convict Mrs. N— in the damages to which the woman P— has, in my opinion, and despite her husband's fault, a real claim.

In every case, a primary chancre (I mean one distinctly recognised as such, even by the aid of inoculation, if necessary) existing in a child, and which has not commenced in it before the fifteenth day after its birth, is a valuable indication for arriving at the source of the disease. Firstly, it exonerates the parents, by repudiating both congenital infection, which never expresses itself by such lesions, and hereditary infection, the effects of which would have appeared earlier. We must not, however, too hastily inculpate the nurse for this reason only, for other persons may have propagated the germ of contagion; but it is already much gained for the expert no longer to have to institute investigations on the side of the parents.

IX.—*Absence of interested motives.*

A very weighty argument in the eyes of people of the world is thus expressed by them; the party complaining is always in the right. In fact, they say, would he make public a disgraceful

disease, if he did not feel certain of a wrong unjustly suffered, and for which he is justified in claiming indemnification? This reflection has a certain force; but it might more legitimately be applied to the families of the children than to the nurses. And in truth the parents of the child generally attach more value to secrecy, and less importance to a pecuniary reparation. The nurse is placed in altogether opposite circumstances. She is little afraid of divulging her disease, which she calls a misfortune; and she has, in general, much to expect from people more favourably situated in respect to fortune than herself. I do not mean by this, that every nurse traffics with it. But it is true, however, that it is on her side that the medical expert will chiefly have to guard against false accusations. In general terms, as many nurses will be induced to *simulate* syphilis from cupidity as parents to *conceal* it from fear of scandal.

It nevertheless sometimes happens that an infected nurse has not lodged a complaint, and that we are asked to examine her in consequence of the action brought against her. In this special case, she is entirely freed from the suspicion I have just alluded to; and she has a right to be believed in all those of her assertions which bear upon anterior facts, upon facts with which she alone can be acquainted.

Conclusion.

Let us sum up the corollaries which spring from this enumeration. Of all the means of supervision which I have mentioned, not one brings with it an absolute certainty; for, strictly speaking, even those most decisive in favour of one of the parties are susceptible of an interpretation which converts them into a weapon for the adverse party. Here, then, as in many medical diagnoses, it is by grouping them together that we shall succeed in using them in such a manner as to extract an admissible conclusion from them. We must not look to their number only, but must also compare their respective weight, and, above all, the probability of the versions by which a character might be given them contrary to that which common sense had at first assigned to them.

There are also certain circumstances of morality and veracity which the medical man alone is in a position to appreciate. In

some cases in which the domestic circumstances of his patients are thoroughly known to him, they exercise an immense ascendant upon his judgment. He must not attempt to resist it, provided always that the influence of friendship, *the desire* (so instinctive a feeling!) *of extricating his client cleverly from an awkward position,* be not superadded almost unknown to him.

Culpable manœuvres are sometimes practised by ill-advised nurses. Cullerier told me that he had among his patients a rich and respected gentleman whom a nurse had been plundering mercilessly for nearly a year by threatening him with an action of this kind, an action to which, although innocent, he would not expose his high position, which rendered proofs of paternity as compromising for him as proofs of syphilis. The following fact has appeared to me to be of the same kind:

I saw with Dr. Brachet, in 1851, a poor infant at the breast, which was presented to us as an evidence of the misconduct of its father by the counsel of the wife, who was suing for a divorce. We were asked to declare it syphilitic, on account of a pretty deep ulcer which existed on its cheek. Robust, fresh, and with an excellent colour, there was nothing but this one sign, in which we recognised without difficulty the effect of a cauterization performed expressly to simulate a venereal ulcer.

The medical man must not become the defender of either one party or the other. His interest, if not his conscience, warns him sufficiently that he could not with safety accept such a position, which the parents, *under the pretext of having made admissions to him,* sometimes persist in endeavouring to force upon him. All he is then at liberty to do is, to keep himself apart and leave to another the duty of drawing up the required certificate.

But if the obligation to be truthful be not a duty of which it is very necessary to remind medical men worthy of that name, there is another which the law imposes on them, and which they are only too much inclined to elude; I mean the obligation of expressing to the magistrates their opinion, such as they have formed it for themselves from the investigation of all the *pathological* circumstances of the facts of the case. Many experts are content to enumerate the elements upon which the conviction of the tribunal may be founded, and leave to it the duty of drawing the necessary conclusions. "Their mission, they say, is to enlighten the judges, not to put themselves in their place." They thus escape the embarrassment into which they are brought in these cases by the difficulty

of the scientific problem and the influence of their relations with their parents.

This is not the view which I take of the duties of the medical man. Justice does not call him in merely as a witness. By associating him with herself as an adviser, she transfers to him a portion of her attributes. She gives into our hands some part of that sacred mandate which commands respect for her decrees, and ensures for her researches the aid of all well-disposed persons. We are bound, then, to communicate without reserve all that may facilitate her legitimate endeavours to ascertain the truth.

But if we are consulted, it is not for the purpose of diagnosing syphilitic lesions; nor to decide whether they have commenced earlier in the child or in the nurse; nor to rake up the antecedents of one party or the other; nor to decide whether a given symptom was transmissible or not, at a given period, &c. These points are no doubt of importance, but, in the first place, some of them require only a purely material verification. Then, of those which are of more weight to decide the point at issue in any way, there is not one, as we have just seen, to which a different interpretation (which each theory vies in declaring to be the only true one) may not very frequently impart an opposite character.

Is it for the magistrate to thread this labyrinth of hypotheses? Is it his duty—an observed fact and a simple possibility being given—to estimate the amount of probability to be assigned to each in the midst of the obscurities of scientific controversy, and the exaggerations of opposed pleadings? No; this task falls upon the medical man—first, because it is intrusted to him, and further because he is the sole person capable of performing it well. By declining it, wholly or in part, he would betray the ends both of justice and of science; for he would refuse the first the means of repairing an injury, and the second would certainly lose in consideration by his reserve, which would be stigmatised, at the least, as incapacity, if not as reprehensible calculation.

I do not wish to deprive the expert, on that account, of the right of doubting and of expressing his doubts plainly, when the details of the case have not enabled him to form a decided opinion *pro* or *contra*. But I wish to remind him that, whether uncertain or fixed, favorable to the parents or the nurse, appealing to the future or affirmative already, his view, whatever it may be, belongs to justice and ought to be made known to the tribunal. Van-

Swieten has written:[1] "Ut famæ ægrotantium, consuletur, videntur medici, prudenti consilio, hanc causam tanquam probabilem in medio reliquisse. Sufficit enim medico luem presentem cognoscore et cognitam curare." I protest against such a programme of the duties of the medical man, if it were wished to make it his rule of conduct in a court of justice; and I conclude by declaring that, whenever his opinion is asked judicially in a similar case, he ought to give the judges who interrogate him, not only the reasons upon which any opinion of his may be based, but also his personal opinion, as explicitly as it has been formed in his own mind.

[1] 'Œuvres,' 1772, p. 379.

PART V.—TREATMENT.

If the resources of our art had an influence upon consummated facts only, the mission of the medical man would be as restricted as his power; he would have done all that is expected of him when he had succeeded in administering specific remedies at the time, by the channel, under the form, in the dose, and for the period the most appropriate. Many special writers thus regard the office of the medical man; they confine themselves to discussing the indication for a given remedy, the superiority of the direct treatment to the indirect, and to giving some usual formulæ for suiting the treatment to the particular age—and all is said. I could name some, amongst the most recent even, who believe that they have exhausted the subject in *ten lines and a half* of text.

The numerous questions agitated in the first portions of this work must already have given the reader an idea of the very different manner in which I regard treatment. For there is not one of these questions which does not affect the honour and the health of families; there is not one which does not require of the medical man a categorical solution; there is not one, lastly, which may not expose him to painful solicitations, deceptions, discussions, or recrimination. But how will he be able to bear this responsibility, which weighs upon him in so many shapes, unless he has formed for himself beforehand, by a profound study of each case, a positive answer to each of the demands which his conscience, the parents, and the tribunals make upon him, with the legitimate desire of becoming enlightened as to the possible consequences of a given venereal antecedent, or of curing the troublesome results already

realised? To be equal to his position, to be able to give judgments which remain beyond appeal—or at least offer no available grounds for cancelling them—to do all the good which the present state of science permits, it is not enough for him to know how to employ mercury or iodine, he must also and especially know the means which may obviate the necessity of having recourse to them.

I divide this portion of the work, therefore, into two equally important sections: *preventive treatment*, and *curative treatment*.

CHAPTER I.

PREVENTIVE TREATMENT.

In the matter of congenital syphilis, the prophylaxis must be considered from two points of view, and fulfil two ends, equally useful, though distinct. It has to preserve new-born children from infection. It has to protect the persons who have habitual relations with syphilitic children. Let us study the rules which refer to this double prophylaxis.

Section I.

TO PREVENT A CHILD CONCEIVED, BORN, OR REARED, UNDER CONDITIONS WHICH EXPOSE IT TO SYPHILIS, FROM BEING ATTACKED BY IT.

I.—*Conditions dependent upon conception.*

Whether it be that both the engaged parties or only one of them is affected with syphilis, the medical man has only three things to do, and that according to the period at which he is consulted: To have the marriage deferred, if his advice has been asked before it took place. To treat actively the party affected, if, the marriage having been completed, there is as yet no pregnancy. To administer anti-syphilitics, and that to both parties, if conception has already taken place. Each of these points calls for some development.

First case.—An individual actually affected with primary or constitutional syphilis, and who has not undergone any general treatment, ought to be declared unfit for marriage. This is for me a point of conscience; a prohibition, the strictness of which admits,

in my opinion, neither of infraction nor concession. The danger of violating it has been largely shown by the aberrations of the Broussais school. And Moreau[1] might then most justly exclaim, at the Academy of Medicine, "Never has so much hereditary syphilis been seen as since the antiphlogistic method has been so generally employed against the venereal lesions of adults."

It is vain to hope for exemption, either for subjects who, recently cured of primary chancres, have not yet had any constitutional symptoms, or for those who, having been affected formerly, have for many years been exempt from any apparent symptom.

The facts which I have quoted in the chapter on ætiology ought to make the practitioner extremely reserved as to the dispensations to be accorded to these two classes of patients. Upon the first he will do well to enjoin six or eight months' delay (counting from the first appearance of the chancre), if the chancre was a simple one; and in addition to this a course of mercury, if the chancre was indurated. As for the second class, if their therapeutic antecedents are in the least obscure, it will be necessary to recommence without hesitation the administration of anti-syphilitic remedies. Experience shows that, in spite of the most prolonged latency of the poison, and of the absence of constitutional symptoms for four, six, and ten years, an individual may beget syphilitic children. The fœtus, a new organ as it were, seems to attract more especially to itself the diathetic outbreaks, the susceptibility for which had gradually become exhausted in the other parts of the economy; and I do but state the strict consequence of the observations collated above in forming an unfavorable prognosis for the progeny of persons so situated. Women appear to exercise a more decided influence upon the child in this respect, which cannot be surprising, since they first furnish the ovum for its formation at the moment of conception, and then the blood for its nutrition during the whole period of gestation.

The treatment to be employed will necessarily vary according to the period at which medical advice is sought; this is the main consideration. Mercury is indicated when the patient has just had an indurated chancre, or when he presents secondary symptoms. Iodide of potassium claims its place so soon as there is a question of tertiary symptoms. And yet I do not know whether experience

[1] Sitting of December 24th, 1834.

stifles in me the suggestions of analogy; I do not know whether the recollection of the numerous cases in which mercury given alone has corrected the prolific vitiation of a family, acts involuntarily upon my mind; but I should be infinitely less inclined here than in the curative treatment of adults, to employ exclusively the preparations of iodine. We have so frequently, in the preceding observations, seen a woman, previously condemned to miscarry or to infect her children, afterwards have a healthy progeny from the time of taking mercury, that I should be strongly inclined always to combine it with the preparations of iodine in similar cases. Perhaps it is correct to say that the aptitude for begetting syphilitic children belongs rather to the secondary than to the tertiary disturbances; but, until experience pronounces upon this hypothesis, as practice does not refute the corollaries which may be drawn from it in reference to the choice of the remedy, I think we ought to regard it as well founded, or at least to act as if it were so.

Thus, then, in the well-marked cases of which I am speaking, a treatment of about three months with mercury, or with mercury combined with iodine,[1] is necessary to give the future couple all the assurance possible as to the health of their progeny.

But a more delicate case presents itself, and requires an answer. Treatment arrests all the secondary or tertiary manifestations; but has it the power of destroying the diathesis? In reality, the relapses of constitutional syphilis are numerous. In spite of treatment the most prolonged, the most strictly followed, and the best suited to the nature of the symptoms, it is never perfectly certain that they will not return. Consequently, we never have the positive assurance that the germ of syphilis is altogether extinct, that it will not reveal its survival by the birth of a contaminated child.

Such being the case (and all candid practitioners, Ricord at their head, and myself the most humbly, but not the less openly, avow at

[1] When this combination appears to me to be indicated, I always prescribe mercury and iodide of potassium in alternate doses, *e.g.*, a dose of Van-Swieten's drops in the morning fasting, then a dose of the iodide some hours after; repeating this successive double medication in the evening. Two hours, at least, should always be allowed to pass between the ingestion of the mercury and that of the iodine. However inconvenient this mode of administration may be, I have constantly found it more efficacious than the exclusive employment of preparations in which mercury and iodide of potassium are combined.

present the impossibility of absolutely preventing these relapses) we may, without affecting an exaggerated scruple, ask ourselves: "Is a man who has had symptoms of constitutional syphilis, or even only a chancre, whatever treatment he may have undergone, ever in a position to marry without danger for his future progeny?"

If called upon to answer positively and conscientiously *yes* or *no*, I confess that I should not dare to choose the former without fearing to betray the truth. And yet, if we go strictly by this rule, who shall escape, *quis sustinebit?*[1] To put an absolute *veto* upon the union of all those who have had antecedents of this kind would be, in the midst of the excesses in our present state of civilisation, to labour earnestly for the speedy depopulation of the earth. Consulted on this point, the medical man will have to establish classes. Thus:

If the individual has had only blenorrhagias and chancres; if the chancres were simple; if they date from more than eight months—marriageable.

If the chancre be of more recent date—marriageable after the lapse of time necessary to complete this interval.

If the chancre was indurated—marriageable, but after a mercurial treatment of from three to four months, provided that no general symptom have presented itself, and provided that the induration have been entirely dispersed for six or eight months at the time of the marriage.

[1] While preparing this portion of the work I have had a striking example of the difficulties of the part which the practitioner often has to play in such cases.

A young man whom I had treated and cured, two years previously, of simple chancres and suppurating bubo, wishing to marry, his future father-in-law came to me for information about him. As he pressed me and conjured me on my honour to declare to him whether his possible grandchildren ran any risk; as I observed him, moreover, to be a well-informed, serious man, capable, as I thought, of appreciating the motives of my reservations, I explained to him within what limits science permits us to give a guarantee of health in a similiar case. No sooner had he learnt that there is no *absolute* security in such a matter, than he closed the interview, and I have since heard that the proposed marriage has never taken place. Did I do quite right in revealing to this inveterate doubter the extreme scruples which experience make it our duty to entertain? Would not language more in keeping with the real probabilities be legitimate under such circumstances? Were not the older medical men right in fact, if not in law, to promise, in such a case, a radical cure after two or three months of mercurial treatment? I propound: it is for each man to decide according to his knowledge and his conscience!

If there have been constitutional symptoms, however slight they may have been, and whatever treatment may have been adopted for them—not marriageable, at least—1, unless the subject submit to a new course of treatment if the first have been incomplete: 2, unless he allows two years at least to pass, to see whether any new symptom will appear; 3, or unless, subsidiarily, he encourages by a more active life, by forced exertions, by a change of climate, by the use of thermal sulphur-springs (Bagnères-de-Luchon, Aix en Savoie), the manifestation of a possible relapse, to be effected more rapidly than if he waited for the efforts of nature and time alone.

If he has had one or several relapses, especially if they have occurred in spite of prolonged treatment, if their concatenation indicate a tendency of the affection to pass into the tertiary stage—not marriageable, with very little chance of having the interdiction ultimately removed.

A cure obtained by a change of residence, by new sanitary measures, or by a profound and spontaneous modification of the constitution can alone, and on condition that it has already continued for several years, justify a repeal of this sentence.

I am fully aware how defective these distinctions are. To have any value they must not be followed literally, but interpreted by a practitioner who makes allowance for the personal circumstances of each patient, circumstances which he alone can know, and for which it is reasonable to reserve a large space in the solution of the problem.

If we reflect, however, that rules were almost entirely wanting in so important a matter, I shall the more easily be pardoned for having written these few lines, radically insufficient, and more reprehensible than useful, if I had had the pretension to give them as a code without revision, but which will, at least, have the advantage of attracting to this subject the meditations of men capable of throwing light upon it, and of forming fixed laws for it.

I have stated the strict necessity of *submitting to the influence of mercury* those who, having had constitutional syphilis formerly, and not having been treated, wish to marry. Is it necessary to go further? Is it necessary to subject to the same precautions those who have already undergone a treatment, but who have undergone it a long time previously? I could not venture to express my opinion on this point in an imperative form: and, nevertheless, when I consider, on the one hand, the numerous instances of men who fancy themselves perfectly cured of

an old syphilitic affection, and who become the fathers of infected children; if I call to mind, on the other hand, those cases quoted above (see p. 143), in which mercury taken by the parents, has had no preventive effect except for the child born soon afterwards, and not for those coming later, I should willingly suggest the utility of adopting prophylactic treatment against any possible chance. Without making it an absolute condition, then, I should not refuse a provident treatment to a patient who, exempt from syphilis at the time but having had it previously, should come, as is so frequently observed, to request it for the sole reason *that he is on the point of settling in life.* I should not refuse it; and if the past symptoms have been at all severe; if they appeared to me, from the patient's account, to have advanced ever so little towards the tertiary period; if their disappearance was of at all recent date; if, at the time of their existence specific remedies had been administered at all sparingly, I should even believe myself to be fulfilling my duty by taking the initiative and pointing out to him the propriety of undergoing a fresh treatment.

Second case.—The marriage is concluded when the medical man is consulted; or he has to deal with one of those unions which dispense with inquiries as well as with formalities, and do not ask for the opinion of the faculty until after the affair is settled.

The duty which falls to our share may become a very delicate one to fulfil under such circumstances. The first and most urgent case is doubtless to subject to active treatment the individual affected with syphilis. But it is not in some days or in some weeks that the effect of remedies can correct the *dyscrasis* to such an extent as to enable the individual to furnish an irreproachable quota for the act of fecundation. It becomes necessary then, first of all, and by the most efficacious means of persuasion or even of intimidation, to prohibit sexual intercourse provisionally.

But on passing from theory to its application, how many difficulties present themselves for the carrying out of such a prohibition! This is not the place to enumerate the impossibilities which oppose themselves to it. If there be conjunctures in which the performance of this function is, as Ricord has said, a compulsory social duty, is it not in this case in which the coldness of the husband, the resistance of the wife, interpreted by the relations, commented on by strangers, would give rise to suspicions the most injurious and

unfortunately, in reality, the best founded? Ought not the practitioner, in such a case, to make the dignity of his office give place to the much more sacred interest of the families whose ease of mind is in his hands? If it were only a question of protecting vice from the misfortunes which are its just punishment, I could understand his hesitation to enter into such explanations. But as the consequences of a fault here fall upon those who might repeat with the fabulist:

"How could I have done it if I was not born?"

the scruples of the medical man would be only a blameable prudery.

But if the subject be a man, expedients are known which suffice to render coitus unproductive; it is for the practitioner to judge from the character of his patient how far it may be allowable to explain these means to him, or to remind him of them. There is also another process for eluding the result feared, for avoiding the end without renouncing the means. The spontaneous periodical ovulation in woman leads to the determination of the periods at which the probability of fecundation is at a maximum, and of those, on the contrary, at which copulation is most likely to be effected without inducing conception. A man of much intelligence[1] has been pleased to approve of this latter procedure, while he stigmatises the former and most useful with the name of *conjugal onanism*. I cannot see what advantage, religious or sanitary, our ingenious brother practitioner can find in thus perfecting the mechanism of unproductive copulation, in converting *a question of place* into *a question of time*, since the end, the intention, and the result would be the same on both sides. If his solution nevertheless calms some scruples, it may be employed and advised occasionally, but without assigning the same value to it as to the other for the attainment of the desired object.

These rules scarcely ever require to be applied except to the man. A wŏman who should find herself placed in the same position after her marriage would, I think, have little prospect of an amicable arrangement. Compelled to choose between a disgraceful confession and the danger of giving birth to a syphilitic child, she will very frequently accept an eventuality which affects her indirectly only, and which is merely probable, to escape a personal misfortune which is certain and present. And yet who can calculate the power which indispositions, feigned or exaggerated to suit the exigencies of

[1] Devay, 'Hygiène des Familles,' t. ii, p. 76 and 113.

the case, absence, coquetry, suspicions cleverly developed, the thousand defensive weapons which compose the arsenal of a woman beloved, would give her to defer, at least during the critical periods, sexual intercourse up to the time when treatment would afford her a sufficient guarantee![1]

As for the treatment itself, it no doubt affords chances of preserving the child about to be born; but, however often repeated, it affords chances only, and not an absolute certainty.

In every case it must further be observed that it will be the more successful the earlier it has been adopted, the longer it has been continued, and the more the dose has approached that which shows the adequate action of the remedy by the manifestation of its physiological effects upon the economy. The possible inefficacy of the antisyphilitic remedy in this conjuncture is therefore, in my opinion, only a further reason for the practitioner to hasten and prolong the administration of it as far as lies in his power.

Third case.—The medical man has been consulted too late; pregnancy has already taken place. Here the hope of preserving the fœtus diminishes to a notable extent, an extent dependent moreover upon the infection of one or both parents, and also upon the stage at which gestation had arrived at the time when the treatment was instituted. In doubtful cases there is only one line of conduct to be adopted; to prescribe antisyphilitic remedies at once, and to push the administration of them with all the vigour which the constitution of the woman, and the manner in which she bears the action of the remedy, admit of. I have already said what is to be thought of the influence attributed to mercury for the production of abortion. It is, on the contrary, as has been well established by Vannoni,[2] the most powerful preservative against it; and if it does not always oppose an obstacle thereto, this depends either upon the circumstance that the poison was in advance of its antidote, or that the susceptibility which so frequently accompanies gestation rendered it impracticable sufficiently to increase or to continue the doses of it. But to dare to accuse it of doing what it

[1] If I should be reproached with the approval which I appear to accord to these manœuvres, I would point out that, apart from their prophylactic object, they are justified also by the essentially short period of time in which the employment of them would be authorised.

[2] 'Il raccogl. Med.,' August, 1842.

has not been capable of preventing, is never to have consulted the annals of science, in which instances of its admirable power abound! It will be well then to protest as formally and promptly as possible against the precept of De Blegny,[1] who gave instructions to wait, before treating a pregnant woman affected with syphilis, "until her pregnancy was somewhat advanced." I have already hinted, and I now repeat explicitly—syphilis is not unfrequently seen to attack the fœtus although the mother has, during her pregnancy, undergone a treatment generally regarded as complete. Here are two instances of this:

A woman[2] contracted syphilis in the fourth month of her pregnancy; she was perfectly cured of it, by appropriate remedies, before the seventh month. She was delivered of a female child which appeared healthy at first, but which, at the end of some months, presented copper-coloured syphilitic maculæ, and an ulcer in the neighbourhood of the *velum palati*. This child communicated the disease to a woman who had undertaken the care of it.

A woman,[3] six weeks pregnant, had pustules on the *labia majora*. She was treated for sixty days, at the hospital for venereal disease, in Paris, and went out cured. She was delivered, at seven months, of a weakly child, which had, thirty days after birth, moist pustules in the ano-genital region, and transmitted the infection to its nurse.

I have chosen these two observations intentionally from amongst all the analogous ones at my disposal, because they appeared to me the best adapted for showing the insufficiency of mercury. That specifics should be inefficient when syphilis existed in both parents, or in one only, but before fecundation, is by no means surprising, since they had then to struggle against the contamination of the semen, the ovum, and the blood of the mother, that is to say, of the elements for the formation and nutrition of the fœtus. But when, on the contrary, as in the two cases just quoted, syphilis has not commenced until after conception, the remedy had to purify the blood of the mother only; and, if it could not do that, its incapability of meeting this comparatively slight indication is a very evident proof of the failures to be expected when more is required of it.

But in compensation, as contrasted with these exceptional cases, how often have we not seen mercury permit, when it has been in too small a quantity only, abortion or fatal poisoning, and irrevocably

[1] 'L'Art de guérir les Mal. vénér.,' p. 365.
[2] 'Edinb. Med. and Surg. Journal,' 1851, p. 366.
[3] 'Mémoire sur la transm. de la Mal. vénér. de la Mère à l'Enfant,' p. 50.

put an obstacle and an end to these accidents, on the contrary, from the moment at which the patient has consented to take it in large doses! Such suggestions are so precious, and are so often required in practice for the purpose of dispelling the prejudices inspired by mercury, that I need not be afraid of appearing fastidious in multiplying instances which bring them into relief. The following are two of the most striking:

Beatty[1] had under his care a married couple who had previously been affected with venereal disease, but who had not for a long time had any visible symptoms of it. The wife had two children in succession, born one at seven, the other at eight months, which came into the world in a state of decomposition. Between the first and second pregnancy, she had gone through a course of mercury, but which was incomplete. She again became pregnant, in July, 1813. Beatty told her that he would not deliver her unless Colles certified that the new course of treatment to which she was about to be subjected had been pushed sufficiently far. She really followed it according to the instructions given her, and was delivered at the full time of a healthy child. Since then she has had several other children equally healthy.

A respectable mechanic and his wife went to consult Colles,[2] on the 5th of August, 1834, for secondary symptoms, for which he treated them with mercury: before this treatment the wife had had two miscarriages. Two years afterwards she was delivered of a child apparently healthy, but which, two months after birth, had well-marked syphilitic symptoms, and infected a young girl of thirteen, a servant in the family. It ultimately recovered, however. The father and mother then underwent a more complete course of treatment. Since then this woman has had another child which was healthy.

My subject naturally forbids any digression into the rules best adapted for ensuring the success of anti-syphilitic treatment in pregnant women. I cannot, however, refrain from pointing out some of the causes which sometimes contribute to diminish the efficacy of it. Thus the use of it is abandoned much too soon when the irritability of the *primæ viæ*, a complication almost inseparable from the pregnant state, makes mercurial treatment ill borne internally. We yield to this contra-indication without seeking to surmount it by carefully feeling our way and making repeated attempts; without remembering that it may be eluded by means of frictions, fumigations, clysters, and mercurial baths. This last omission has struck me in more than one case of this kind. I point it out especially on account of the name of the author, to whom one is surprised to find this reproach

[1] 'Pract. Observ. on the Vener. Dis.,' p. 267.

[2] Op. citat., p. 291.

applicable, in the case recorded by P. Dubois, published by Bouchut.[1]

A second cause of failure might be, that the medicine has been taken by the mother only. When a married woman, the subject of syphilis, goes to consult a medical man, the latter believes himself to have fulfilled the indication to its whole extent if, when he has prescribed the appropriate remedies, he watches over the use of them until the moment when they appear to have neutralized the morbid principle. Perhaps, however, there is something more to be done. Perhaps, if the husband be syphilitic, he should also be required to undergo a course of mercurial treatment in the interest of his child. The facts related in the first part of this work (p. 20) certainly do not prove the reality of the influence which Hunter and Nisbet attributed to the semen of a syphilitic father upon the already formed child; but they appear to me, however, to be of a nature to leave some doubts in the mind. For my part, then, if a woman had already had, in spite of full treatments, several children affected with syphilitic diathesis, I should follow the example set by Colles in the preceding observation, and should subject the husband as well as the wife to the use of anti-syphilitic remedies. I should adopt this plan *a fortiori*, if the husband presented at the time any characteristic constitutional symptom; and I do not see why we should not choose by preference the pregnancy of his wife, a period in which continence, a powerful auxiliary in these treatments, would be more easy to him, to prescribe for him remedies to which he must have recourse sooner or later.

Another circumstance, more easily verified, may also interfere with the preservative effect of the specific treatment. Applied to both parents, this treatment has been sagely combined, followed perseveringly, and well borne. And yet the child is born with unmistakeable symptoms! This is because too much time has elapsed between the cessation of the treatment and conception. Its effect upon the manifestations of the diathesis was striking; but the diathesis itself has persisted and, gradually accumulating its force, has effected a discharge which, in the absence of the child, would perhaps, at a later period, have fallen upon some organ in its parents, but of which it has been the victim, because the effort necessary for its production has excited in their organism one of those revolutions

[1] Op. citat., p. 879.

which cause the diathesis to pass from the state of a force to that of action.

The observation by Simon (quoted p. 143) shows that things may occur in this way, since the first child of a man treated with mercury escaped syphilis, and the four following were attacked by it.

Must we, with these *data*, lay down the rule of waiting until pregnancy occurs before ordering mercury for a woman who has previously had syphilitic lesions which were badly treated? The sequence might be a logical one, but there could not be a more pernicious one in practical medicine. In fact, if we could know beforehand, and two or three months beforehand, the moment of conception, it would perhaps be preferable to defer the administration of remedies until then. The constitution being recently saturated with their specific influence would find itself, at the time of fecundation, so to speak, at its *minimum* of syphilis, and at its *maximum* of mercurialization. But this hope being only chimerical, it is better, it is absolutely requisite, to adopt our precautions when we can, and to commence the treatment, when the indication for it exists, as soon as the patient is placed at our disposal, with the option of repeating it whenever pregnancy adds a fresh desire for security to fresh motives for anxiety.

This is, in fact, the inference which I draw from the preceding considerations, and I do not hesitate to lay it down as a rule of conduct because it meets the rational suggestions of theory as well as the most timid desiderata of practice. To repeat the administration of anti-syphilitics at each pregnancy will doubtless appear to many to be too strict a rule, or an excess of pusillanimity. But I do not apply it either to all patients or all cases. I should not wish to make it a general prudential measure, applicable even to those who, in spite of previous syphilis, have already had several propitious confinements. But when, on the contrary, experience has already made itself heard, when this fatal stigma has already killed or branded one or more children, then I refuse to regard a mercurial treatment, even though followed by a third normal delivery, as a perfectly sufficient guarantee of the health of a fourth child; and during this last pregnancy I should have neither scruple nor hesitation about advising, while there is still time, the only complement of safety which the parents can have, the renewed administration of specifics. The following case will show whether my distrust springs from unfounded fears.

Mr. P—[1] had had syphilitic ozæna, of which he was cured by Plenck's solution. He married a girl who, when eighteen years old, had had a chancre in the vulva, of which she was slowly cured by the internal and external use of mercury. Since that time neither of them had presented the least symptom of syphilis. The first child was born healthy, but was covered, at the end of a fortnight, with an eruption of miliary vesicles, which increased in size, burst, and left behind in some places brown spots, in others ulcers. Treated unsuccessfully with æthiops mineral, it sank. The mother had six other children which presented the same lesions and died. When pregnant for the eighth time she was put upon a course of calomel. The child which was then born is a boy, who has continued healthy up to the present time. At the ninth pregnancy the mercurial treatment was repeated and the result was also propitious. During the tenth pregnancy recourse was not had to the same means: the child, healthy at first, also became covered with syphilitic eruptions, and sank in marasmus at the end of six months. The mother, pregnant for the eleventh and last time, again took mercurial pills, and brought into the world a female child, which has continued healthy up to the present time.

Could we desire the proof and counter-proof more clear, more frequently repeated, more free from complications than this case furnishes them? And, by furnishing the peremptory proof of the absolute necessity, in certain cases, of repeating the treatment at each pregnancy, does it not make us feel the utility of following this rule whenever suspicious antecedents, or a first pregnancy cut short by abortion, inspire some alarm as to the issue of an actual gestation?

I propose this question here, but I do not wish to do more than propose it: a child having been conceived of parents manifestly syphilitic, is born apparently healthy. But one or more children begotten before it by the same parents have had syphilis. Must we wait until symptoms appear before submitting this last child to treatment? Would there not be more chance of saving it by commencing the administration of remedies, in moderate doses, from the very moment of its birth? However reserved I may wish to be on this subject, I must nevertheless say, that if its predecessors had not only had syphilis, but had sunk under it in spite of treatment instituted on the appearance of the symptoms; if, lastly, the father and mother had not, since that time, employed any remedies, the preventive administration of mercurials to the last born child would, in my opinion, find a very sufficient justification in this aggregate of circumstances.

[1] 'Oesterreichische medicinische Wochenschrift,' 1842.

II.—*Conditions connected with parturition.*

We have seen that the dangers which threaten the fœtus in traversing the diseased genital organs of its mother have been greatly exaggerated. But if infection during parturition be one of the most uncommon facts in the history of congenital syphilis, it is far from being an impossibility. The accoucheur ought, therefore, to take the same precautions against it as if instances of it were daily observed. He will do this the more willingly because the contagion to which the child is exposed at that time may reach himself during the manipulations required of him.

In classical treatises the lesions communicable during parturition are pretty generally limited to primary chancre alone. I cannot too strongly protest against this optimism. Mucous tubercles ought to inspire the same fears. Are they (I mean the *non-congenital*) contagious or not? This is not the place in which to discuss this great question: and the solution of it is not necessary here. For even if we should conclude with Ricord against their contagiousness, it would remain none the less true, still according to Ricord, that a chancre on the point of transformation into a mucous tubercle, and arrived at a stage to simulate the latter, even to the eye of a very skilful practitioner, may still be perfectly inoculable.

But, it will be said, if the mother has mucous tubercles, whether transformed or not, she is affected with syphilis. Consequently, the fœtus has already contracted it in her womb; and can no longer contract it during parturition. What then is the advantage of striving to preserve it therefrom? This mode of reasoning assumes that every syphilitic woman infallibly communicates the disease to her offspring: it assumes further, that if syphilis has been contracted by the mother after the seventh or eighth month, it is as communicable to the fœtus as if contracted at the commencement of her pregnancy. This is enough to show how little foundation there is for the feeling of safety with which it could inspire the accoucheur.

The precautions to be adopted in such a case are of two kinds: they apply either to the mother or to the child.

On the side of the mother, it is very evident that, without

neglecting the other indications, the treatment must first of all be local, and must tend to repress as quickly as possible the contagious lesions which exist, whether in the passage itself, or in its vicinity, about the anus, in the groins, etc. If the practitioner has not time to effect a complete cure of the chancres, he must endeavour, at least, to bring them, before delivery, to the reparative stage. It is not for me to treat here of the means adapted to fulfil this end. I shall recommend, as particularly prompt against mucous tubercles, chlorinated lotions, followed by the application of calomel. It is very rarely that the most confluent patches are not effaced in a week, under the influence of this treatment, the discovery of which is due to the practical genius of Ricord.

I cannot insist too much upon the necessity of expedition in such conjunctures. Many practitioners hesitate about curing local lesions before the patient has been subjected to general treatment. Others are unwilling to adopt too active measures, such as cauterization, in a pregnant woman. These scruples can be discussed anywhere else, but are out of place here. We must act as soon as we are called in; the treatment must follow close upon the diagnosis. Neither must the frequent occurrence of premature delivery in syphilitic women be forgotten. Neither must it be forgotten that the vital modifications undergone by the organs of generation during the last months of gestation render the cure of lesions in them much more slow and much less certain: for instance, the vegetations which are often seen to recur abundantly in spite of the greatest care. If then we are never sure about the time left us before delivery; if we are, further, anything but sure about the time which the symptoms will require for their cure under these exceptional conditions, do we not see therein a sufficient reason for setting to work immediately?

But the medical man may have been called in too late: he does not recognise the presence of the chancre, for instance, until the moment of the commencement of labour. Must he then remain inactive? Certainly not. It will suffice for him to destroy momentarily the virulent secretion of the ulcer and then to cover it, as an additional precaution, with a protecting varnish. He must, therefore, cauterize freely and deeply with nitrate of silver all the lesions which are contagious or suspicious, and then smear them with collodion. Several coats of this impermeable covering laid on successively, will in great measure neutralize the chances of com-

munication to the fœtus. If the labour should be much protracted these precautions should be repeated.

On the part of the child, the precautions are limited:

To expediting as much as possible the conclusion of the labour when it has once commenced;

To keeping the membranes intact as long as possible if there be no contra-indication; the flow of the liquor amnii, during the passage of the head, serving to keep it from coming into contact with virulent secretions;

To hold the finger, or what is better, a thin piece of softened horn or ivory, between the contagious lesions of the mother and the body of the child, whilst the latter remains stationary at the point where they exist;

To inject oil several times during the whole time of labour, to obviate or lessen friction;

Lastly, immediately after birth, to wash carefully all the parts of the body of the child which have been longest exposed to contact with the virulent pus, or which are known to be the usual receptacle for it, especially the eyes, the lips, the nostrils, the anus, and the genitals. If any excoriation should be observed, it will be prudent to cauterize it, without delay, with a stick of nitrate of silver.

III.—*Conditions dependent on the persons amongst whom the child is brought up.*

The relations between the child and its nurse must occupy the first place here; those between it and other individuals, the second.

A child born healthy, of healthy parents, cannot, I will assume, be suckled by its mother. How are we to proceed to prevent the nurse to whom it is intrusted from communicating the venereal disease to it?

This danger, it must be confessed, is not sufficiently taken into account by people of the world. In spite of repeated distressing occurrences, the medical man is much too rarely asked to give an opinion as to the *special* state of health in the nurse. Satisfied with her good looks, her simplicity which is sometimes affected, and the rusticity of her accompaniments, the father intrusts the fate of his child to her without inquiry; and of the questions

addressed to her concerning her antecedents, the most important is certainly the last to be thought of.

The reserve of families on this point is further sufficiently explained by a very natural feeling of delicacy. But what is to be said of the medical man (and there are many such) who omits to include in the examination required of him, the careful inspection of the genital organs of the future nurse? It is, in my opinion, an unpardonable omission: no extraneous consideration, no certificate of morality should exempt the woman from this ordeal; and one who took offence at finding herself subjected to it would be precisely one in whom I would carry it out with the most distrust and with the greatest care. On exploring the vulva and neck of the womb, the anus, the groins, the nape of the neck,[1] and the back of the mouth, accusatory signs or vestiges of a past or present infection will sometimes be found, and their absence, if verified, will, on the contrary, be one of the most reassuring guarantees for the future of her foster-child. But these are not all the precautions required, and we must be careful not to draw too hasty a conclusion.

Rosen (op. citat., p. 540), gave a prudent piece of advice in recommending an examination, not only of the nurse, but of any child she may be suckling at the time. This is the opinion of an enlightened practitioner, and Rosen had probably learnt from experience what I have established categorically above, viz.: that when the nurse transmits syphilis to a child, this syphilis has almost always been communicated to her by a previous suckling affected hereditarily. It is from that source that the chief danger really proceeds: to it, therefore, must the strictest investigations of the practitioner be directed.

To obtain the greatest possible degree of security on this point, it is not enough to verify the health of the child presented to us; for one may be *hired* to play this part. See whether it is really suckled by this nurse. Inquire whether she has not, or has not had others; who their parents are; in what state of health they have been returned to those parents, and what usual diseases they have had previous to weaning. Do more: go into the neighbour-

[1] Indurated glands in the groins, and above all in the posterior cervical region (about the boundary line of the hair) ought, even without any actual symptom of syphilis, to make us reject without reprieve the nurse who is the subject of them.

hood of the nurse's abode; examine her neighbours; see whether there is any child at the breast there whose condition might compromise the one you are about to send to live near it. Question the husband of the nurse. Take advantage of the envy which nursing, well paid or promising to be so, always excites in the acquaintances of one who is about to have this windfall. Manage adroitly, but without compromising her, to lead her neighbours, too happy to do this good service to their friend, to dilate upon her antecedents. If you have learnt nothing exceptionable, set your mind at rest: to come out unscathed from such an ordeal, the virtue of your nurse must equal her good state of health.

I do not pretend by these words to have traced out for the practitioner the whole programme of his duties. I merely say that if I had a child I should make a point of acting thus; and I leave to each of my professional brethren the care of deciding how far it suits him, in a given case, to impart to his intervention a character which belongs rather to the father of a family than to the medical man.

The infection which did not exist in the nurse at the time when the child was intrusted to her may be contracted by her afterwards. This is the reason why people prefer keeping her in the house, and carefully watched, to leaving her at her home without any possible authority over her actions. Sometimes, however, the licence of a town influences her in a manner opposed to the provisions which had induced the adoption of this course; and as, otherwise, the general health of the child cannot fail to be strengthened by country air, sometimes advantages accrue from sending it into her neighbourhood. But the considerations which may incline the scales one way or the other depend so much upon entirely personal conditions that it would be rash to attempt to offer an absolute solution here. I have said enough, however, to render intelligible the necessity of keeping the nurse under observation during the whole duration of the functions intrusted to her.

In certain cases it is not against the duplicity of the nurse that we have to be on our guard; it is her ignorance which requires to be enlightened. Under the reassuring title of cracks she may, without suspecting it, apply to her nipples mucous pustules or true chancres, lesions which she transmits all the more easily because she does not believe them to be contagious.

As regards the nurses who, knowing themselves to be diseased,

wish to continue suckling, the medical man, if he does not succeed in dissuading them from it, can only advise them always to give the breast which is not affected, avoiding all contact, however transitory, of the lips of the child with the other. If they are both affected, she should make use of nipple-caps: but this measure affords a false security only, and if he have any influence over her, it is best to employ it in advising either that the child shall be transferred to a healthy nurse or fed artificially.

As regards the influence of the milk furnished by a syphilitic nurse, I have nothing to add to what has been said on this point in the chapter on ætiology.

The danger sometimes proceeds from persons from whom it has been least expected. I have shown sufficiently, by examples, to what sources of contagion, fortuitous or voluntary, accidental or premeditated, the weakness of the new-born child and constant want of care expose it. But to have them made known is the only means of procuring the avoidance of them; nothing can replace for this purpose the preliminary investigation, (the rules for which I have pointed out,) and repeated and unexpected visits made by the parents at the house of the nurse. The eye of the father is here at the same time that of the master; he will know better than any one else how to discover the dangers to which imprudence, inattention, or profligate habits, expose his child.

If a nurse affected with venereal symptoms consults the practitioner, he must warn her against the consequences of certain very common practices, reputed harmless, but which are in reality very frequent causes of contagion. Many women who have a chancre in the vulva employ their hands either to dress it, or to still the itching which exists in its vicinity; then, with the same fingers, they take the breast out of the dress to give it to the child, or even handle the nipple to excite erection in it, or to bring it within reach of the child's lips; the virulent pus is thus placed immediately in contact with the mouth of the suckling.

Other women have syphilitic lesions in the cavity of the mouth: if they then make use, as so commonly happens, of their saliva to cleanse the child; if, from excess of care, they retain for some moments in their mouths, for the purpose of warming it there, the water destined to the same end, it may happen that in washing their nursling they inoculate it with a chancre.

These accidents, of which instances have been seen, and which

have been quoted by Bertin and Ricord, will become the object of very important prophylactic suggestions. Taking into consideration the carelessness of women in the country, we cannot make these suggestions to them too clearly or too strictly. We need not be afraid of darkening the picture, and, instead of possible contagion, leading them to anticipate it as certain if they infringe these rules.

Section II.

TO PREVENT A CHILD ATTACKED BY SYPHILIS FROM TRANSMITTING THE DISEASE TO PERSONS WITH WHOM IT IS IN RELATION.

The most exposed of all such persons would appear, in theory, to be the mother, who during nine months has the closest possible relations with it. If intimate contact, identity of temperature, and community of nutrition be adequate conditions of propagation, assuredly, being subjected to them more than any one else, and incapable of eluding any one of them, she ought to experience their influence in all its plenitude! We have seen above how far practice confirms the data of reason. But, whether opponents or advocates of the reality of this mode of infection, all recognise that it involves nothing contrary to the laws of physiology. All consequently must agree in this practical conclusion, viz. that, after having had a child by a man affected with syphilis, the health of the woman ought to be watched more carefully than before; and that, if any obscure ill-defined disorders supervene in her, the diagnosis of which leaves the least doubt, it is an indication to administer to her, if only as a test, anti-syphilitic remedies, especially iodide of potassium.

But it is not from this quarter that the most serious fears and the greatest difficulties proceed. When a child is born under conditions of parentage which render the early development of syphilis in it probable or possible, it furnishes a sanitary and moral problem, the solution of which, weighing fearfully upon the family and the medical man, has not been found and cannot be found completely. It is a question of reconciling the interests of the child with those of the nurse who is about to take charge of it, interests the more to be respected in that the one party is innocent of the disasters which

strike it, and the other can scarcely ever be tied down permanently to refuse or to accept, with a full knowledge of the actual state of things, the risks which she is about to incur.

One plan, rational enough at first sight, would consist in warning the nurse as to the condition of the child intrusted to her. She would then be free to make up her mind, would expose herself voluntarily only, and would be able to adopt all the necessary preservative measures. But experience has shown that this course only frees the parents from responsibility at the expense of the health of the child. Nurses, in general, are alarmed at such a proposition; and those who, attracted by the prospect of an indemnification, consent to incur risks so serious, always find means of eluding them by depriving the child of its natural aliment through the substitution of another nurse, an animal, the feeding-bottle, or, what is still worse, when a strict supervision renders these frauds impossible, by refusing it the breast as often as possible.

A means of solving the difficulty sometimes presents itself. If the mother be capable of suckling her child, it is always to her that it should be intrusted. Besides the advantage of not endangering any one (for we know that the suckling does not infect the breast of its mother), we shall have the further one of being able to administer anti-syphilitic remedies to it in the mildest form. In fact, whether the syphilis proceeds from the father or the mother, the latter has always felt its influence more or less, either by coitus, or by the *return shock* (see p. 146). The administration of mercurials, if not formally indicated, is therefore, at least, never contra-indicated in her as in a strange and healthy nurse. If, consequently, the practitioner believes it necessary to prescribe specific remedies, he will not meet, on her part, either with opposition or lukewarmness in carrying out this treatment, which, although often insufficient for the cure of the child, is however always a valuable auxiliary to the remedies administered directly to it.

Unfortunately, the same cause which has infected the fœtus has most frequently dried up or vitiated the sources of the mammary secretion in the mother. Nothing remains but a milk scanty, thin, serous, impoverished, soon exhausted, and the more pernicious because the child, already debilitated by the common influence which weighs upon these two beings bound up in each other, has need of more reparative nutriment, so that the strengthening aliment furnished by a robust and healthy stranger will more than counter-

balance for it the mediate medication which it might have received from the breast of its mother. Nursing by the mother, therefore, can very rarely in such cases be carried out under conditions of which the practitioner can approve, and he is forced to recur to the choice of a nurse.

Syphilization, it is true, points out the solution of the problem, but in perspective only. If it should one day fulfil its promises, we might, by syphilizing the nurses, render them insusceptible of contagion. Then, as I have already said elsewhere,[1] "there would be breasts for all those little beings, innocent victims of the faults or the credulity of others. Every suspicious child would meet with its syphilized nurse. The egotism of the rich would no longer have a pretext for sacrificing to the welfare of a scion the health of a villager, and frequently that of her whole family; and hospital authorities would no doubt hasten to set the example of this useful innovation, by exciting the zeal of their paid nurses to undergo the salutary operation."

But while waiting until this dream—this hope, if the expression be preferred—becomes a reality, are there not other means of attaining the same end, or at least of approaching it? The following are those which I believe may be recommended, having already employed them successfully.

If the child present at birth, or a few days later, symptoms of syphilis, and the mother is at all capable of suckling it, we must insist upon her doing so. A nurse who would consent to take such a child, and really to give it the breast, would be extremely difficult to find; and I should not place more than a half confidence in such promises. Moreover, is it permissible to impose, even upon one who declares herself willing to accept them, chances of which she never knows the whole gravity? In every case, if the medical man is not consulted until after the bargain has been concluded, he must rejoice for the sake of the child; but he ought, at the same time, to require of the parents that they shall cause the nurse to be carefully watched, and treated as soon as she shall present any visible symptoms. He will also, on the one hand, point out to her the signs by which she may recognise the invasion of syphilis; on the other, the preservative measures, of which I shall presently speak.

But this is not the most common case. In a very large majority

[1] 'Gaz. Méd. de Paris,' 1825, p. 539.

the child is born healthy, and the manifestations of syphilis do not supervene until several weeks after. Under these conditions, apparently more simple, the embarrassment of the parents and of the medical man is, on the contrary, still greater, because nothing frees them from their responsibility. In fact—

When visible lesions showed the existence of the disease, the nurse, enlightened by the aspect of the child, was at liberty to take it or to refuse it. Here, all is latent; if she accept it, she does so unsuspectingly; if she suffer therefrom afterwards, she cannot be told that she has wished it, because nothing had warned her of the danger which she incurred. Are we to reveal to her by hints, by certain insinuations cleverly *veiled*, the condition of the child? I have already explained the serious inconveniences which result from these confidences. However reservedly we may think we have conveyed them, they cannot do less, without remaining unintelligible, and thus failing altogether in their object, than give the cue to the nurse, and lead to consequences unfavorable to the health of her foster-child. It would, moreover, be highly repugnant to me to sacrifice a healthy, respectable woman, in the prime of life, to the very problematical future of a child which so many causes of death, besides this one, threaten in consequence of the infection of which it bears the germ.

The practitioner finds here in his duties strict limits to his toleration. He may be the confidant of the parents; let him never become their accomplice.

In hospitals a more open course is pursued. On giving to the nurse a suspected child, she is warned of its condition and made acquainted with the symptoms which may develop themselves in it. She feeds it artificially, and brings it to the hospital as soon as it presents any visible symptom. But, if this be the most moral course, it is very far from being the most advantageous one for the child.

In private practice we are compelled to act upon other data. Let us estimate them according to the various circumstances which present themselves.

One of two things occurs: either the nurse remains in the house of the parents, or else she returns to her own home. In the former case the course to be pursued is most simple. It suffices to examine attentively, during the first months, the condition of the child. If there appear about the mouth, or elsewhere, any symptom of which the contagious property is probable, there is time, as

they have been observed at their commencement, to repress them immediately by cauterization, while working for the same purpose by means of the general treatment which may, in such cases, have been commenced from the moment of birth. Having thus the child under our hands, being free to examine it at any moment, knowing the period, the regions, almost the precise spot in which the most dangerous lesions, in respect to transmissibility, may declare themselves, a vigilant practitioner will generally succeed in becoming master of them. With the aid of some slight preventive measures pointed out to the nurse, he will thus have been enabled to cure the child, without having exposed her who gives it the breast, and without having been compelled to interrupt lactation.

In the country, far from all constraint, from all supervision, the same system no longer furnishes the same guarantees. Must we then, to place the nurse in safety, tell her all? No; and the following is what I have done in a case of the kind. I wrote to the medical man of the village in which the nurse lived, and made him, with the consent of the parents, a general confession, for secrecy concerning which professional discretion was, on his part, a sufficient guarantee. I begged him urgently to examine the child very frequently, and as soon as he should observe the least contagious symptom which he could not neutralize immediately, to suspend natural lactation. He carried out my instructions extremely well. To alarm the nurse less, he disguised, by various pretexts, the frequency of his visits, sought to meet the child as if by chance when taken out, alleged the fear of thrush as a reason for examining the mouth, the wish to see whether cleanliness was observed for exploring the genital organs. The nurse soon unsuspectingly accustomed herself to meet this inspection half way. So much care led to a happy result. The child, which I had been treating since its birth, had some mucous tubercles at the commissures of the lips. Before they were well marked, and while they still passed under the name of simple cracks, my colleague cauterized them freely with nitrate of silver,[1] and directed the nurse no longer to give it the left breast, the nipple of which was a little excoriated. Other specific eruptions appeared on the hairy scalp and inner part of the thighs; but as their site did not inspire the same fears of contagion, they were treated with the ordinary topical applications only. In short the

[1] If these symptoms had resisted treatment, I should have caused the child to be suckled by a goat.

child was thoroughly cured, thanks to the intelligent co-operation of my colleague, without having ceased for a single day to be suckled by its nurse, who remained healthy. Is this only a further fact in favour of the non-contagiousness of congenital syphilis? I do not know how it will be appreciated; but it has appeared to me worth relating to explain the course to be pursued in similar cases, when, at least, we can meet with an auxiliary so adroit and so devoted as the one who contributed so largely to the success of my innocent diplomacy.

Few families, it must be confessed, few practitioners, and few writers, take so seriously in hand the interest of nurses; while some of the latter, finding a pecuniary advantage in rearing a suspected child, voluntarily incur the dangers of contagion, but seek to diminish them as much as possible. The practitioner therefore very frequently has occasion to point out to the nurse the precautions to be adopted to protect herself from the contagious influence of her foster-child.

In these cases, our first care must be to recommend them to condemn immediately to inaction either breast of which the nipple is excoriated. As soon as they observe the slightest fissure, they must use the other breast exclusively in suckling, to give to that which is cracked time to heal thoroughly. Though the nutrition of the child suffer somewhat thereby, and though it may be necessary to have recourse to the feeding bottle to replace the quantity of natural aliment of which it is temporarily deprived, this measure is strictly necessary. If carried out more attentively, it would often prevent the infection of the nurse; for Swediaur, Vassal, Colles, Egan, and others, believe that she may, with impunity, continue to suckle a syphilitic child so long as there are no fissures in her nipples. The immunity is, moreover, quite in keeping with the general laws of syphilitic contagion. We know, in fact, that, without being an indispensable condition thereof, the previous removal of the epidermis greatly favours its accomplishment. I repeat: even without a solution of continuity, the nipple may easily be affected by chancres or mucous tubercles, since, according to the remark of Egan himself, the attendants of the child, the *dry nurses*, sometimes contract the disease from it by simple contact. But in the end, it is a great point, in a transmission which includes so many possible modes, to be able to annihilate that which is at once the most frequent and the most active.

There are still other means of diminishing the chances of contagion for the nurse. The nipple-cap fulfils in this respect valuable prophylactic conditions. A woman, mentioned by V. Cl. Guérard,[1] succeeded in suckling with impunity a syphilitic child by confining herself to smearing her nipple with fat before giving it to the child, and afterwards washing it with a solution of chloride of lime. For the same reason Lallemand recommends[2] washing the apex of the breast, as soon as it is removed from the lips of a suspected child, with a solution of bichloride of mercury, then with milk to remove the mercurial taste which might afterwards prove repugnant to the child. This advice, founded, as it appears, upon the supposed property of neutralising the virus *in situ*, seems to me less worthy of being followed than the other.

It is not alone by the act of suckling that nurses are exposed to infection. Any contact with a diseased child may communicate it to them. From this I draw the inference (which is it appears to me incontestible, from the cases related in the third part of this work,) that, independently of the nurse, all the persons who have habitual relations with a syphilitic infant, may thereby contract venereal disease. The prophylactic measures proposed above are therefore perfectly applicable to them.

Lastly, the nurse, once infected, may become the agent of transmission to her husband, her own children, &c. The medical man must therefore warn her as well as them of the danger which would exist in imprudent relations with each other, so long as the disease persists in her.

[1] 'Journ. de Siebold,' loc. citat.
[2] 'Journ. univ.,' t. xxvii.

CHAPTER II.

CURATIVE TREATMENT.

The syphilitic affection having been recognised, the indication for a general specific treatment is clear, evident, and undisputed. We no longer discuss, for an instant, the aberrations in favour of the self-styled physiologism which saw and treated in venereal lesions nothing but simple *phlegmasiæ*. If the success of the antiphlogistic method applied to primary affections gave it some appearance of truth, the same could not hold good in congenital syphilis; for the symptoms which it presents are almost always the manifestations of a constitutional diathesis; and the practitioner would have as many miscalculations as patients, if he persisted obstinately in excluding the true anti-syphilitic remedies from the treatment of them.

But the necessity of special treatment being admitted, the means of carrying it out most advantageously still suggest a number of questions of the greatest importance. We find ourselves here, it must be confessed, in a position which, unfortunately for humanity, is almost a disgrace to science. Face to face with an affection perfectly known, in possession of specifics the efficacy of which is undoubted, certain from experience of their efficacy in cases altogether analogous, the medical man has still too often the mortification of having only insufficient succour to offer. The same agents which effect a cure in the adult fail in the new-born child, and the Medical Society of Bourdeaux has acted wisely in pointing out in its programme this unfortunate contradiction, as one of the most important *desiderata* to which it has thought proper to call the particular attention of candidates.

To clear up the problem, it is necessary to dissect it. Perhaps the unknown will more easily be eliminated by thus searching for it, by turns, in the various elements which must be taken into

consideration for the formation of a complete plan of treatment. I shall therefore endeavour to determine successively—

At what period the anti-syphilitic treatment of new-born children must be commenced.

Whether the remedies must be administered directly, or through the medium of the milk which they suck.

By what channel—skin, stomach, or pulmonary mucous membrane—their absorption must be aimed at.

To which of the remedies recommended as anti-syphilitic—mercury, iodine, gold, sudorifics, etc.—absolute or relative preference is to be given, according to the different cases.

This last question having been settled, in what pharmaceutical form the remedy is to be employed.

What is to be, in accordance with the various conditions which may affect them, the daily dose, and the progression of it from the commencement to the end.

Within what limits the duration of a treatment of this kind is, *à priori*, to be fixed.

With what sanitary precautions the child must be surrounded, to favour the action of the treatment.

Lastly, when and how it is beneficial to promote its influence by that of a local treatment directed to a given symptom.

I.—*At what period must the general treatment of infants be commenced?*

The child comes into the world with syphilis, either already apparent, or in the state of germ: or it ultimately contracts it. In the latter case it remains subject to exactly the same rules as the adult. Let us assume that it has contracted a primary chancre. If this chancre is not indurated, as there are many chances that the disease will not become general,—as moreover, mercury employed unnecessarily is never, especially at this age, without its disadvantages, we must wait and defer the administration of it until the moment at which constitutional symptoms begin to appear. If, on the contrary, the chancre is indurated, the employment of mercurial preparations must be commenced immediately. Nothing should exempt the child[1] from it, and the necessity for it once recognised,

[1] I am here speaking of children only, reserving, as undecided in my opinion,

it is preferable to begin it in good time. The same course is to be pursued if the secondary affection (of which no one denies *the possibility*) have been acquired by direct contagion, and have commenced in the child in the form of a constitutional lesion, especially of mucous patches.

As regards inherited syphilis, analogy is wanting, and the course to be pursued cannot be cleared up by any precedent. Must we, when a child has been conceived under conditions which *expose* it to syphilis, and of which we are aware, subject it, though born without any visible symptom, *hic et nunc*, to specific treatment? This is a great question, upon which I have already touched (see p. 219), and which I do not see even alluded to anywhere, the difficulties of which are, in fact, at least equal to its importance.

One fact proves, however, that such treatment does *exercise a real influence*, viz., the evidently favorable action of remedies administered to the mother during pregnancy. The medication is thus addressed to the child *at the moment when it is already under the stroke of the diathesis, and threatened with syphilitic symptoms, although these have not yet broken out.* But it prevents the appearance of these symptoms, as is clearly shown by the numerous cases in which we see women who had previously borne a succession of syphilitic children enabled to bring forth healthy ones, by a course of mercury given during pregnancy. Why, then, should this remedy not have the same virtue when it is given to the child, after birth it is true, but in a phase of the disease perfectly identical, as it appears to me, with that to which I have just alluded?

On the other hand, would the employment of remedies in such a case be attended with any danger? I think not. In the first place, being given only as a precaution, they would never be given except with moderation. Secondly, since these lesions generally manifest themselves before the end of the first or second month, it would never be necessary to prolong much beyond that term the anticipative treatment. Lastly, the continuation of it not being an absolute necessity, its use would be abandoned as soon as it produced any bad result. We should thus avoid the too frequent inconvenience of this kind of treatment, adopted inconsiderately in adults for simple primary chancres; cases in which we see mercury

the question whether it is better to give mercury immediately to an adult as soon as an indurated chancre is observed, or to defer the administration of it until constitutional symptoms (syphilo-derma, mucous tubercles) have appeared.

affect the gums and digestive mucous membrane in a manner which renders the resumption of it almost impossible when the after appearance of constitutional syphilis furnishes a positive indication for its administration.

But if the dangers of this course appear to me to be null, its advantages are, on the contrary, in my opinion, most striking. If it has not been entirely subdued, is it then nothing to have been able to disarm a diathesis over which we so rarely triumph when we await, before combating it, the period which it has itself chosen and prepared for its outbreak? Mercury, it is true, does not with certainty prevent the symptoms from reappearing ultimately. But, at least (this is the remark of Ricord), it defers the period of their appearance. This is a slight service to the adult, but a valuable, an immense gain when it applies to so frail an existence as that of a being in whom the vital resistance, almost null at birth, is still so feeble that a few weeks' advance, gained or lost, of the invasion of syphilis, is almost a question of life and death for it! Moreover, by commencing the treatment before the outbreak of any symptom, we can extend the total duration of it over a more considerable period of time, and regulate the doses, and consequently the susceptibility of the little patient, more than is sometimes done when the assistance has been deferred until the moment at which the danger breaks out in all its force.

Do I propose, on that account, to mercurialize without distinction and without exception all the children who, from the antecedents of their parents, may more or less be suspected of containing the germs of syphilis? Doubtless not; and the more so because, as I have already said, we frequently see children come into the world and continue perfectly intact, although their parents were manifestly syphilitic. It becomes absolutely necessary here, therefore, to make distinctions. Thus, if I might pretend to lay down rules in reference to a subject so new as this, I should prescribe treatment immediately after birth—

For children born of parents having, or having had, *both of them*, syphilis at the time of conception;

For those whose father or mother was, at the time of conception, under the influence of a syphilitic diathesis, manifested by constitutional symptoms recent, and not yet treated specifically;

For those who, begotten apart from these conditions, but nevertheless by parents with syphilitic antecedents, are born *before the full*

time, or at the full time, but with the *senile aspect* pointed out by writers as the certain stamp of specific poisoning.

I should, on the contrary, exempt from this immediate treatment—

Children *one only* of whose parents had had syphilitic affections *some time previously,* especially if they had undergone specific treatment;

Those whose mothers, whatever had been the source of their disease, had undergone during their pregnancies a *full mercurial treatment, commenced before the sixth month;*

Those who, notwithstanding suspicious antecedents in their parents, should present *the appearance of robust health and of a vigorous constitution.*

In must be thoroughly understood that, in the rare cases in which characteristic venereal symptoms exist at birth, the child must at once be subjected to anti-syphilitic treatment, the detailed instructions for which will be given hereafter.

If this idea of treating the disease before the appearance of its symptoms may find some opponents, it might at least be expected that there could be no difference of opinion as to the necessity of commencing the administration of remedies so soon as these symptoms declare themselves. Far from this. To some writers the dangers of mercury seem to be such as to more than counterbalance its utility, even in cases where the indication for it appears to me most imperative. De Blegny[1] already hinted at these apprehensions when he remarked "that the child at the breast is infinitely less capable of *bearing the effect of remedies* than at a more advanced age." Guyon de la Nauche says, that "the cure of syphilitic children would be more certain if we could defer the treatment of them until they were four or five years old."[2] Carrying this view still further, Gardanne converts it into a formal precept: "Except in a very urgent case," he says, "it is more prudent to defer the administration of the remedy (bichloride of mercury) until the twelfth month."[3] A little further on he states very distinctly that only children *who have passed the twelfth month* are admitted to his dispensary for the exhibition of the remedy (p. 165). And when we consider that this same

[1] 'L'Art de guérir les Mal. vénér.,' p. 270.

[3] 'Le cours de médec. théor. et prat.,' t. v, l. vi, p. 28.

[3] 'Recherches prat. sur les différentes manières de traiter les Mal. vénér.,' p. 139.

Gardanne was invested by the authorities[1] "with the duty of dispensing to the children of the poor the remedies necessary for curing them of the venereal disease," we cannot help experiencing a feeling of compassion for the many victims which this unjustifiable temporising, unfortunately raised to the rank of a general system, must have numbered.

In my opinion, it is the exact converse of this course which constitutes the veritable rule to be observed, without exception and in every case. The debility, the chloro-anæmia, the leanness, the scrofulous appearance, the tabes, which, with some medical men, are so many obstacles to the employment of specific remedies, depend so often upon lesions caused by syphilis that they authorise and dictate, in my opinion, the immediate use of those remedies, instead of contra-indicating it. The recent researches of Ricord, P. Dubois, Depaul, Gubler, &c., by pointing out the frequency of visceral syphilitic lesions, and showing the casual relation which connects them with the various functional disorders of the new-born child, have singularly contributed to prove that anti-venereal remedies may much sooner obviate than aggravate, as was formerly believed, the consequences of these morbid conditions. As for me, on taking into account the urgent danger with which syphilis threatens early age, and the powerful succours which remedies of this kind offer, I should be almost tempted, despite all the reserve which the practitioner ought to exercise in such circumstances, to exclaim: No; there never can exist, in such a case, any contra-indication to the immediate administration of specific agents!

II.—*Must infants be treated directly, or through the medium of the milk?*

The indirect treatment, that is to say, administered to the nurse, and thus reaching the child mediately through the milk, was formerly much in vogue. More mild, more gradually administered, dissolved more completely in a vehicle adapted by nature herself to the digestive powers of the infant, and entering its stomach in very divided doses only, it seemed to present the best means of controlling the extreme susceptibility so freely attributed to new-born children, and which, in the matter of anti-syphilitic

[1] See the decree of the Lieutenant of Police, May, 1790.

treatment, has so often led to *controlling* it much more than the interest of their cure requires. The indirect mode of treatment was, then, long esteemed. Colombier, Doublet, Faguer, attached to the special hospital of Vaugirard, do not doubt that the nurse's milk becomes impregnated with molecules of mercury, and is capable of curing the child which she suckles. Bertin strongly advocates this opinion. "The milk of the nurse," he says, "pretty often suffices to cure the child intrusted to her;"[1] and I have looked in vain in his book for anything which could have authorised Cullerier[2] to write that his confidence in this mode of treatment had ultimately been shaken. Bertin quotes, on the contrary, a decisive observation, in which a child covered with pustules on the thighs and legs, reduced to a cachectic condition, and too weak to bear the direct administration of remedies, resumed the appearance of good health by the aid of the influence of the mercurialized milk of its mother.[3] Bouchut does not advise any other treatment than that thus administered through the medium of the nurse;[4] and I have already quoted from Bassereau striking instances of its efficacy. I will not swell this list with the more or less formal evidence of Garnier, Astruc, Levret, Fabre, Burton, Rosen, &c., in favour of the mediate employment of mercury.

In his very remarkable treatise, Cullerier, resuscitating against this treatment an objection already antiquated, has sought to prove chemically that the milk of a nurse who is taking mercury never contains enough to effect the cure of her nursling. Reveil and Personne proceeded, at his request, to minute analyses. The former only once detected mercury in the milk of a goat to which this metal had been given in very large quantities, so as to occasion very serious disturbances in it. He has never detected it in the milk of women who had taken the remedy in medicinal doses. But Personne, on his part, having adopted a different method, verified the presence of mercury in the milk of women who had taken three fourths of a grain of the proto-iodide daily for two months. It is true, adds Cullerier, that he detected infinitesimal quantities only. Our author infers therefrom the inefficacy of the indirect treatment.

After having read the account of these experiments, we ask our-

[1] Op. citat., p. 184.
[2] 'Bullet. de thérap.,' 1852, p. 441.
[3] Op. citat., p. 78.
[4] Op. citat., p. 866.

selves whether they are not more opposed than favorable to the theory in support of which Cullerier invokes them. This woman, let it be observed, took the mercury in doses two or three times smaller than those prescribed in an ordinary anti-syphilitic treatment; and yet reagents showed that her milk contained some of it. The quantity detected was extremely small, says Cullerier; and this I grant. But can it then be supposed that the analysis revealed all? Is it certain that the other means would not have shown the presence of a larger quantity of the metal? The assumption is the more admissible, as I have seen Reveil fail in an analogous investigation, and infer the absence of mercury solely because he had carried out the experiment in a different manner. If the difference of process explains how, of two very skilful men, the one found while the other sought in vain for the same body in the same fluid, by what right should it be forbidden me to hope that a more perfect system of analysis may to-morrow demonstrate in it a more considerable quantity?

But this is not all. I am willing to admit that chemistry has, for the present, told us all it can tell. Must this *infinitesimal* quantity of mercury be estimated, in reference to its curative power, by that of the salts which we dissolve in our laboratories? An extremely small quantity of sulphur or of alkali contained in the waters of Barèges or Vichy cures, in twenty-five or thirty days affections which had previously resisted the largest *officinal* doses of sulphuret of potassium or bicarbonate of soda. Has nature denied herself the same privilege in the combinations which she effects in the living organism? A vulgar adage tells us that man lives by what he digests, not by what he eats. In the same way, it is the remedy absorbed, not the remedy ingested, which effects the cure. And if a molecule of mercury, reduced by the milky secretion to the state of combination most formidable to its curative action; deposited in the vehicle most conformable to the special conditions presented by the child; and reaching the stomach continually, arrives there in a form and at times in which its passage into the absorbent system is ensured; if, moreover, this molecule (as facts prove) suffices to cure it—in the name of what science can its effects be compared to those of the portion of a salt which we force it, twice a day, to swallow repugnantly, without even knowing whether it will not immediately be rejected intact with the stools?

If experience does not prove that the indirect treatment is the

best, it shows, at the very least, that it may sometimes suffice; and theory, as we have just seen, does not refute the evidence of observation. Whether as an indispensable resource, when the child would not bear any direct treatment, or as a useful auxiliary in cases where an urgent danger demands the multiplication of our remedies, it must be retained. Without ever taking it in its strict sense, the practitioner will not forget, in reference to syphilis, the precept of Hippocrates: *Lactantium cura tota in medicatione nutricum.* The advantage of causing the remedy destined for the child to pass through the system of the nurse is still more evident when it is iodide of potassium, and not mercury, which is to be administered. This remedy may, in fact, be taken with impunity in such large doses, and passes undecomposed into all the secretions with such facility, that the child undoubtedly receives in this way a quantity fully adequate to its cure. I have already quoted from Bassereau observations which thoroughly confirm this view.

An ass or a goat rubbed with mercurial ointment after shaving the parts, may, in default of a nurse, furnish medicinal milk. The use of it has been recommended by many of the older writers on syphilis; and, if Swediaur is to be believed, "in one of the reigning families of Europe no child survived a certain age until this treatment was adopted."[1] At present, such measures are almost entirely abandoned. Perhaps wrongly so. Very possibly a few cups of the milk of a mercurialized animal would be at once a good food and a good remedy for a syphilitic child when beginning to associate with the milk of its mother some foreign aliment.

The indirect treatment has always to guard against an obstacle which robs it of his power, and even mingles some dangers with its action, often without its being suspected. In general, it is when the nurse is syphilitic that remedies are administered to her, that they may serve equally for her and for her nursling. This was the course pursued at the hospital of Vaugirard; this is the one adopted with mothers who, having been the source of the infection of their children, wish, by giving them the breast, to transmit to them, after the disease, its remedy. This practice, which is believed to be wise and prudent, is so essentially in that it allows of suckling the child without exposing a healthy nurse. But, regarding exclusively the interests of the infant, can it be a matter of indifference

[1] 'Traité complet des Mal. vénér. ou syphil.,' t. ii, p. 133.

whether it is nursed with the milk of a healthy woman, or of one who is syphilitic? It could not, I grant, contract syphilis, having already done so. But will not such a diathesis, essentially debilitating, whether in itself or from the remedies which it necessitates—a diathesis so often combined with chloro-anæmia—influence the product of the mammary secretion? And when we see medical men and parents so carefully watching the change which the least indisposition, the slightest emotion of the nurse occasions in her milk, must we not be astonished to hear them tolerate and even advise suckling by a woman the subject of a *dyscrasis* so general and so persistent as that of syphilis? The observation of which I am about to give the *résumé* shows, amongst a thousand others, the effects of such alimentation upon the health of the child:

A healthy lady of nineteen, says Capdevila, was delivered in April, 1851, of a robust child, but which fissures of the breast prevented her from suckling. It was intrusted to a healthy and robust nurse, who appeared to present the most favorable conditions. Nevertheless, the child began to fall off considerably, had frequent indigestion and diarrhœa, with paleness of the skin and mucous membranes, swelling of the joints, enlargement of the abdomen, tardy ossification of the bones of the skull, late dentition, &c. At the end of thirteen months it was observed that the nurse presented a papular syphilitic eruption, accompanied by characteristic pains in the limbs. The child was taken from her, and, being better nourished, ultimately recovered its former state of health.[1]

I have selected this case purposely on account of the slight influence which syphilis had produced upon the health of the nurse at the time when she took the child. While no external sign induced a suspicion that she was diseased, she was capable, at a very little advanced period or degree of constitutional syphilis, to do a serious injury to her foster child by the bad quality which the diathesis, although so feebly marked, had communicated to her milk.

Here is another instance of the same kind, the authenticity of which I can attest *de visu*:

A lawyer, free, as well as his wife, from any syphilitic antecedents, had first a child which was and has since remained a perfect model of health and strength. A year afterwards they had a child which they gave to another nurse, who presented at the time every appearance of a robust and intact constitution. The child, which at first throve admirably, began to decline

[1] 'La Cronica de los hospitales de Madrid,' Dec., 1853, p. 391.

about the seventh month. The nurse presented at the same time some spots upon the face, to which the eye of the father was anxiously directed. Being then examined by Dr. Tessier and another medical man, the nurse was found to be the subject of a well-marked papular syphilitic eruption; and on questioning her, it was ascertained that she had had, some months previously, some rather obscure symptoms, but amongst the number of which the existence of a bubo was admitted. The child was taken from her immediately. It had not and has not since had any symptom of syphilis, but for two years and a half it remained feeble, pale, with flabby muscles, an evidently chlorotic tint, and tardiness of the locomotive function, a difference rendered especially manifest by the vigour and vivacity of its elder brother. This condition, (alarming from its duration), not promising to terminate, although the nurse was changed, Dr. Taupin fortunately decided upon administering preparations of iron, which produced in some months a most remarkably satisfactory change.

The conclusion deducible from these cases do not tend to make us condemn the indirect treatment; they show only that it must be judged less by what it effects than by what it might effect. With a healthy nurse, mercurialized for the sole purpose of treating the child, the aggregate of the elements favorable to this mode of treatment would be realized. But it is not given to all to meet with, or to be able to create for their children, such medico-sanitary conditions.

When the mother is syphilitic and unable to suckle her child—when there is no nurse at hand who requires or consents to take mercury, then direct treatment becomes indispensable. But this is very far from being the sole indication for it; and, in my opinion, as in that of the most recent writers on syphilis, it is by no means to be regarded as a last resource, or as a make-shift. Quite the contrary; it is to meet acute symptoms, it is in *galloping* syphilis, that the employment of it becomes an urgent necessity, a most imperative duty. A great number of children to whom indirect treatment will ultimately render valuable services—the first violence of the disease having been subdued by the direct use of specifics—would infallibly succumb if we endeavoured to treat them exclusively through the medium of the medicated milk of the nurse. In confining ourselves to it alone under circumstances (less rare in infants than is generally believed) in which prompt aid is required on pain of death, we must bear in mind the essentially slow action of the indirect treatment, that we may avoid compromising both the remedy and the patient.

A case rather embarrassing to solve may present itself: the

syphilitic mother is able to suckle, but the child, on its part, bears well the direct mode of treatment. Must we, to furnish this treatment with the complement promised by the mercurialized milk of the mother, pass over the disadvantages which result from the bad quality of that milk? Must we, in other words, renounce giving the child a healthy strange nurse, with a good supply of milk, that it may profit by the mercury it might imbibe from the breast of its mother? In spite of my sympathies for the indirect treatment, I am far from leaning towards this solution. When the infant bears with impunity the action of remedies directly administered to itself, treatment has fulfilled all the requirements which its condition presents, and nothing more remains to be done but to make hygiène play its no less indispensable part. But the first condition for this end is the choice of a nutritious and restorative milk; and a nurse free from syphilis, if she be willing to perform her duties conscientiously, will always do so much better than her whose organism has been debilitated by the syphilitic diathesis, and all whose functions have been perverted in a more or less marked degree. To conclude: treat the child directly in such a case, and procure for it as healthy a nurse as possible.

I have annexed the two following cases as establishing, by a clinical counter-proof—undertaken, so to speak, expressly—the superiority of the direct treatment:

Mrs. X—, infected on the very day of her marriage, and becoming pregnant immediately, has, at the end of two months, copper-coloured spots, mucous patches, &c. She is treated very imperfectly, and is delivered at the full time of a healthy little girl, who, at the end of three weeks, presents flat tubercles about the anus and vulva. Her mother, who suckled her, recommenced a mercurial treatment. Nothing is done, in the case of the child, beyond observing perfect cleanliness. In a month all the symptoms disappear.

At six months, fresh tubercles appear in the child. The mother, although exempt from venereal symptoms, again takes mercury. At the end of a month the child again recovers.

At one year, flat tubercles reappear about the anus and vulva of the little girl, and, in addition, a pustular eruption on the face. Cullerier, being then consulted, advises direct treatment; but the parents objecting to it, he causes the child to be suckled by a nurse to whom Van-Swieten's drops are administered for three months. The child recovers.

At two years, a roseolous eruption presents itself, accompanied by mucous patches at almost all the orifices, and by pustules of ecthyma on various parts of the body. This time there is no opposition to the direct treatment, which, moreover, at that age, was the only possible one. For three months Cullerier administered, at first one sixteenth, then one fourth, of a grain of bichloride of

mercury, and a mercurial bath every five days. This child, which is now ten years old, is very healthy, and has not had any relapse since that time.[1]

In this case, the indirect treatment showed itself incapable of effecting a radical cure; but, at least, it had produced the momentary disappearance of the constitutional symptoms. In that about to be narrated, its inefficacy is still more evident; for only a progressive aggravation of the disease was observed during its action.

A woman, married in November, 1832, had, at the end of seven weeks, a chancre in the vulva; she took pills. At the end of two months an eruption appeared on the whole of her body, and returned in the month of June, 1833. She again employed mercurial remedies.

In 1835 she became pregnant, and miscarried at the eleventh week.

On the 20th of March, 1836, she was delivered of an apparently healthy female child, which she suckled. But at nine weeks the child presented copper-coloured spots on the face, neck, and trunk, and had the disease at the angles of the lips. Colles treated the mother with mercurial pills. The little girl sucked freely, and had no remedy administered to her.

At three months the child had papulæ on the vulva and buttocks; its health began to decline; it cried incessantly. A surgeon merely added frictions to the treatment followed by the mother. Three months later this child was brought to the hospital very emaciated, feeble, pale, and, as the author says, in a deplorable, almost desperate condition. All the symptoms mentioned above persisted, and several of the pustules became ulcerated. The mother had no symptom of syphilis.

On the 3d of September a mercurial syrup was given to the mother and the child; the ulcers of the latter were dressed with black wash. On the 8th the treatment of the mother was suspended, because it purged her, and was not resumed. The treatment of the infant was continued; an amelioration soon took place; it cried less, its voice became changed in character, and its strength returned. In short, the ulcers healed by degrees, and, thanks to the continuation of the same treatment, a complete cure was effected.[2]

III.—*By what channel is the absorption of specific remedies by infants affected with syphilis to be aimed at?*

This class of considerations, accessory in the adult, assumes, in the instance of infantile syphilis, an extreme importance. Few writers, however, have hitherto accorded this to it; neither could it be otherwise, since it results chiefly from the discoveries recently

[1] 'Bullet. génér. de thérap.,' 1852, p. 445.
[2] Colles, 'On the Venereal Disease,' p. 277.

made concerning the nature and frequency of the visceral lesions which accompany congenital syphilis.

Writers formerly confined themselves, in reference to the special point at issue, to stating vaguely that, when the digestive organs are too susceptible, the remedies must be administered in the form of baths, frictions, fumigations, &c. But these latter directions being, consequently, only given for subjects in whom the exhaustion of the chief functions prevented the use of the remedies internally, they were scarcely ever seen to succeed. Neither was more confidence placed in their effect than care taken in the execution of them. It was as a last resource, and to satisfy his conscience in some degree, that the practitioner dictated them. It appears to me that the indication for them must, at the present time, appear under a totally new aspect.

Without discussing here the question whether the liver forms the bile, or whether it merely separates it from the blood, there can be no doubt that it plays an essential part in digestion; and no one, so far as I know, would attempt to maintain that the elaboration of the materials deposited in the digestive canal is as complete in the absence as with the concurrence of the normal biliary secretion.

Further, the passage and filtration through the liver of the substances conveyed from the intestines by the portal vein, is a condition essential to their regular digestion.

But when the tissues of the liver undergo the induration described by Gubler, the most ordinary consequences of this change are, as we have seen, *the suspension of the normal biliary secretion* and *the obliteration of the vessels* of its parenchyma.

Digestion, therefore—and the inference will doubtless not appear forced—must undergo, from the fact of this lesion, an alteration, the effects of which are, moreover, sufficiently revealed by the unusually rapid falling off observed in subjects affected with it.

But we should overlook a notable portion of the dangers of this disturbance if we limited it to the digestion of the food. Remedies encounter a similar obstacle, and without becoming absolutely inefficacious, they must thus lose a considerable part of their power. The child therefore finds itself menaced in this case, both by the impediments to nutrition and by those which oppose themselves to the absorption of the indispensable remedies.

If we take into consideration the frequency of this change, the difficulty of diagnosing its existence at an early period, and the

entirely analogous effect which must be produced by the engorgement, common enough also in these cases, of the mesenteric glands, we shall agree, I think, in recognising the utility of the new data, of which I content myself here with affording a glimpse. If they are correct, an extreme interest must be attached to lesions of the liver; and it becomes urgently necessary to multiply our investigations to determine the especial ætiological conditions which preside over their development, and to improve our means of detecting these lesions at an early period, immediately after birth, if possible.

And since, in the present state of our knowledge, we have no means either of foreseeing this change, or even of recognising it until it makes itself known by its most serious effects, we must always assume it as soon as it is possible, or, at least, be ready to act as if it existed. And if I saw well-marked constitutional symptoms resist the administration of specifics by the mouth, warned by the preceding notions, I should infer the possibility of induration of the liver; and this assumption would suffice to modify my plan of treatment. Consequently, I should address myself with confidence and energy to cutaneous absorption, frequently the only channel left open to me, the lesion of the liver being pretty generally complicated with specific inflammation of the lungs.

These considerations not only furnish more frequent indications than formerly existed for external treatment, but they give grounds for these indications entirely different from those hitherto recognised. It is no longer because internal treatment might be *ill borne by the stomach* that remedies will be administered by the skin; it is solely because it would there meet with mechanical and vital obstacles to its effect. It is no longer condemned for its dangers, but for its insufficiency. Neither do I propose to abandon it, but merely to furnish it with an auxiliary. Even if the lesion of the liver should be evident, the administration of anti-syphilitics by the mouth must not be discontinued; for if even the smallest portion of its parenchyma were intact, it would be, with a passage open to the remedy, a further chance of cure. But, while insisting upon the use of agents of this kind, it is important to multiply in every form those of the external treatment. We must employ, then, simultaneously, and more than once a day, frictions, baths, lotions, plasters kept on constantly, and fumigations, which also sometimes prove efficacious.

A special indication for treatment by cutaneous absorption also exists, for the child as well as the adult, whenever the gastro-intestinal

mucous membrane is too susceptible to bear the irritating contact of preparations of mercury or iodine. There even need of greater vigilance here to forestall the inflammation before it breaks out, and to meet it on its earliest indication by the suspension of the internal treatment. In fact, a good and regular nutrition, an imperative requirement at all ages, is especially so for infants, and still more so for those affected with syphilis. If there be a means of rescuing such from the perils of this debilitating dyserasis, it is assuredly by submitting them to a thoroughly reparative alimentation. Doublet had well recognised this when, after having said that all new-born children fed with goats' milk, rice-water, wine, &c., sank, he adds:[1] "If some have been rescued from danger, it is because they have been intrusted to nurses." There is no special writer who has not expressly recommended this course; and all treatment attempted in the absence of this indispensable auxiliary would, *à priori*, be condemned as powerless. If, then, the employment of remedies internally irritates the stomach and occasions diarrhœa, a tympanitic condition of the abdomen, cries, and an expression of suffering more marked during the first hours which follow the ingestion of them—if vomiting supervenes under the same circumstances, and especially if emaciation be observed, do not wait for more serious derangements before changing your plan of treatment. The substitution of topical remedies for internal ones then becomes imperative, and cannot be adopted too soon. There would always be time to recur to the latter, or at least to combine them in very small doses with the employment of external applications, if these, although administered *largâ manu*, produced local lesions or proved insufficient. The delicacy of the integument at this age does not contra-indicate this mode of treatment. Colles[2] says that he never saw mercurial inunction produce erythema in new-born children, &c. Cullerier is of the same opinion.

Is it, moreover, necessary to say that, when they are tolerated, medicines given internally deserve an absolute preference? They have justified it, especially in this case, by so many services, that they ought always to constitute the general method—that by which we must commence, and abandon only when its ill effects, learnt by experience, manifestly predominate over its advantages.

[1] 'Mémoire sur les Sympt. et le Trait. de la Mal. vénér.,' p. 61.

[2] Op. citat., p. 281.

Many of the older writers, however, recommend inunction only. Petit-Radel and Lamauve prefer it to the use of remedies internally. But the most fervent advocate for them of all is no doubt Brodie. This illustrious surgeon, who, it is true, has devised a special method for procuring the absorption of mercury by the skin, writes: "Very few of the children who have taken mercury internally have recovered; but I have not seen a single case in which the method I have just pointed out has failed."[1] I shall explain this method presently. Cullerier, who has the most recently and the most practically studied this subject, also accords a decided though not exclusive preference to endermic treatment.

IV.—*To which of the remedies recommended as anti-syphilitic must preference be given in the treatment of infants affected with syphilis?*

The preparations of mercury and iodine are the only ones which can contend for the choice of the practitioner; not that the whole treatment is confined to knowing how to administer them, for hygiène furnishes valuable resources for seconding their curative action. I merely wish to state that, with respect to specific remedies, not one is to be compared to the two heroic agents which the healing art daily finds so useful against the syphilis of adults.

A priori, analogy would appear to indicate the iodide of potassium more particularly in two cases, viz., first, when the child is affected with symptoms more or less analogous to tertiary symptoms in the adult, and especially with visceral lesions; secondly, when the parent who has transmitted the disease to the child was, at the time of transmission, in the tertiary stage of the affection. But we have seen, in the second part of this work, within what limits similar conclusions are justified by experience, and how far it is legitimate to regard as tertiary the affection of a new-born child developed in the midst of such conditions.

But can treatment claim more certainty for its indications than diagnosis for its conclusions? Doubtless not, strictly speaking; since it is precisely the preliminary division into secondary and tertiary phenomena which must suggest to the practitioner the choice to be made between the two antidotes. But, in fact, the strictness

[1] 'Lectures illustrative of Various Subjects,' p. 245.

of rules may, with benefit to the patients, undergo more than one relaxation. Thus, without *à priori* prescribing preparations of iodine rather than of mercury in cases which present one of the two conditions just mentioned, I shall take it for granted that the administration of them would then be especially rational. I can, then, in such a case, try them first, and go on with them if good results soon show their suitableness. I can, further, under the same conditions, if mercurial preparations fail to check the progress of the lesions, have recourse to the iodide, the employment of which would then be doubly indicated. But, I repeat, this is the only trial which prudence authorises us to make; and there is a great difference between these vague indications, this methodical feeling the way, and the clear and easy measures, the safe and bold employment of this salt, which practical knowledge of the syphilis of adults authorises and dictates.

Some success has followed the employment of iodide of potassium in the conjunctures which I have just alluded to. Bassereau mentions the case of a child affected with suppurating sub-cutaneous tubercles, manifestly tertiary, contracted from its father, who had reached the same phase of the evolution of the disease. Notwithstanding the gravity of the symptoms, it recovered under the use of the iodide taken by the nurse. A most conclusive therapeutical counterproof adds great value to this case. Four years later the same man, still under the influence of the diathesis, begot another child. The latter was equally affected with syphilitic tubercles. This time, the nurse having, at the end of a few days, refused to take the iodide, the child was subjected to mercurial inunction; but it sank. Lastly, Ricord and Bassereau speak of another new-born child, the subject of deeply ulcerated tubercles, which recovered by the aid of iodide of potassium given to the nurse. But in this case mercurial inunction had at the same time been practised on the child, so that mercury may claim a part, at least, of the honour of the cure.

Deville[1] has collated the cases of four children affected with syphilitic coryza, who were rapidly cured by iodide of potassium administered directly to them. In the only one of these cases given in detail the disease proceeded from the mother, who had presented secondary symptoms only. As regards the child, it had, in addition

[1] Bouchut, 'Traité prat. des Mal. des nouv.-nés,' p. 869.

to the coryza, a superficial ulcer on the *velum palati*, and non-prominent red patches about the anus, some of which were ulcerated superficially. The treatment was conducted by Nélaton. While congratulating the patient on this happy result, it must by no means be overlooked that, neither in the symptoms of the child, nor in the disease of its parents, was there anything to make the practitioner suspect the existence of tertiary syphilis.

The reservation which I have just made appears to me the more rational because I find, on looking over the cases of syphilitic children, with reference to the lesions most resembling tertiary lesions in the adult, that in those in which recovery took place it is not the iodide which effected the cure. In pemphigus, Bertherand saved his patient with bichloride of mercury. The same treatment had the same success in Galligo's two cases. Depaul attained an equally satisfactory result by this course. As regards visceral lesions, as they have scarcely ever been recognised hitherto except on *post-mortem* examination, few writers have given directions for the treatment suited to them. I know no one except Gubler who has touched upon this subject, and he clearly expresses his preference for iodide of potassium. In induration of the liver "it is to that remedy," he says, "that we must have recourse."[1] Unfortunately, his assertion is rather refuted than confirmed by experience; for the only cure which he quotes, and which belongs to Cullerier, was due to proto-iodide of mercury. Gubler asserts, it is true, that this pharmaceutical combination *unites to a certain extent the advantages of mercury and iodine*. But practice formally contradicts such an assertion. It is as mercury, as *anti-secondary*, that the proto-iodide of mercury has been extolled by Ricord, that I employ it daily, and that it is universally prescribed by practitioners. Its triumph is in the secondary period; in the tertiary, when preparations of iodine are suitable, it remains comparatively powerless. Facts will not change to meet the requirements of a doctrine; and facts oppose themselves with all the eloquence of their free and spontaneous language to the interpretation which Gubler seeks to enforce.

And yet, in spite of the little encouraging result of the attempts made with this remedy, I will not give up the hope of seeing it one day assume the rank in the treatment of congenital syphilis which it occupies in that of symptoms in the adult. But the researches

[1] 'Gaz. Méd. de Paris,' 1852, p. 358.

to be instituted on this subject must be undertaken with extreme reserve and discretion. Care must be taken, while seeking to cure the patient more thoroughly and more quickly, not to deprive him of the remedy which the experience of ages recommends as a very adequate specific. It will therefore be by associating the iodide with mercury, rather than by prescribing the former alone, that we must seek to derive benefit from it. This course is imperative in the interest of the patient; and, let it be said, it is fortunately compatible with what reason suggests, for the serious and deeply-seated symptoms of the new-born child resemble much less the tertiary lesions of adults than those which are called *transitional*. But, as every practitioner is now aware, the most efficacious remedy for the latter is not iodine alone, but iodine and mercury given simultaneously. In trying the two agents in combination against the serious changes of congenital syphilis, we should at one and the same time satisfy the most legitimate suggestions of experimental analogy and the rules of the most scrupulous prudence.

To have fixed the limits and the virtues of iodide of potassium in the special cases before us is to have determined implicitly those of mercury; for such is the specific character attributable to these remedies that the curative action of the one commences precisely where that of the other ceases, and that the recognised impotence of the former against a given symptom is the best guarantee of the power which the latter will possess to combat it. This appropriation to distinct cases, a valuable resource for the practitioner, is a no less advantageous simplification for the writer on syphilis, who finds in it a means of abridging his task without leaving it unfinished, since the indication for mercury (with the reservation specified above concerning their combination) exists whenever that for iodine is wanting.

This means that mercury will constitute, in congenital syphilis, the ordinary and essential basis of the prescriptions of the practitioner. A very simple reflection shows to what extent it is suitable to the symptoms in new-born children; it is that the treatment of them has gained nothing in certainty or promptitude since the discovery of iodide of potassium. The ancients administered mercury only, and cured them as well as we do. It is legitimate to try something else at the same time and in addition to mercury; but nothing could authorise us to abandon its use, and to substitute another remedy for it. It is always amongst the preparations

of that metal that we must seek the specific remedy for congenital lesions, in whatever form they manifest themselves.

If, however, the child did not receive the syphilis from its parents; if it had contracted it accidentally, as the consequence of a primary chancre; if the disease, after having passed through its secondary phase, presented tertiary phenomena, the perfect identity of cause and effect between this affection and that of adults would imperatively point out the preparations of iodine, to the exclusion of those of mercury.

V.—*In what pharmaceutical form must the anti-syphilitic remedy be administered?*

It would be quite out of place here to speak of the rules to be followed in the administration of remedies to the nurse when the indirect mode of treatment is to be employed. That she shall experience their action without being inconvenienced by it is the sole end which can be proposed; and, to attain it, all that is necessary is to consult the special writers who have laid down rules for the anti-syphilitic treatment of the disease in adults.

The direct treatment, the only one with which we have to deal, includes two very distinct classes of agents—those for internal, and those for external treatment.

A. *Internal treatment.*—The only form in which remedies can be given to infants consists in dissolving or suspending them in a fluid, or in mixing them with a substance soft and pleasant to the taste, such as honey or jelly. Milk, sugar, and water, and at a more advanced age broth, are perfectly suitable as vehicles for fluid or soluble remedies. In these cases Doublet and Bertin usually employed a spoonful of the following mixture:

Gum Arabic	12 parts.
Sugar	10 parts.

Dissolved in 375 parts of boiling water.

As for substances in powder, or insoluble in water, it is more simple to give them in a spoonful of porridge or pap. Calomel, if it is desired to have recourse to it, may with advantage be mixed with powdered sugar.

Children of this age cannot swallow pills. I should not even have taken the trouble to allude to this, if I had not seen them recommended by one of the authors who has nevertheless treated the question the most practically, viz., Lamauve.

Syrups are also excellent vehicles, especially for children of some months old. They very readily take the iodide of potassium in syrup of orange peel or of peppermint. Henriette's method of effecting the swallowing of remedies *introduced by the nostrils* will often be found very useful under these circumstances.

As regards the kind of preparation to which preference is to be given, I must remark that it is of less consequence to have a large number of them at our disposal than to know how to choose the best. I attach very little importance to varying them and replacing one by the other, but a great deal to superintending the chemical purity and careful officinal manipulation of them. One good formula is sufficient, and it would be very useless to parade in these pages the tiresome catalogue of all the formulæ which speculation has imagined and propagated for this special department of therapeautics.

There are, first of all, certain remedies which ought to be discarded, at least as a general method of treatment. Thus calomel, which purges and is not observed, the proto-iodide, which is so difficult to administer and tends more than any other preparation to produce salivation, should be reserved for exceptional cases, viz., calomel when it is necessary to fulfil a purgative or vermifuge indication without discontinuing the anti-syphilitic; and the proto-iodide when very serious complications compel us to develop promptly, at all risks, the whole power of the specific treatment. Apart from these, it is to the bichloride that we must have recourse. Easy to divide and to dissolve, its effects upon the child are the more readily recognised by the practitioner because he has had more frequent opportunities of studying them in the adult. If it be true that it irritates the digestive passages and produces slight salivation, these are unimportant phenomena, easily subdued. They even have their advantages, since, unless we are acting upon organs particularly susceptible, they do not become developed until the treatment has been carried far enough, and consequently prove valuable indications to point out to the practitioner the limits, whether of time or of doses, which it is necessary to reach, but would be useless to pass. I confine myself, therefore, to the

bichloride dissolved in a fluid (as is the case in Van Swieten's solution), or in a syrup (such as Bellet's improved syrup, generally well borne by children). As it is necessary, however, to provide for cases in which a remedy, although excellent, must be replaced by another, either because use has impaired its action or because it encounters an incompatible or refractory idiosyncracy, I should recommend subsidiarily Plenck's gummy mercury (if a treatment less irritating but also less powerfully curative than the bichloride be desired), or the cyanide of mercury (if it be wished to keep up an action equal to that exercised by the bichloride). The iodide of potassium should always be administered in syrup; it does not produce either repugnance or gastro-intestinal irritation. It is not necessary, therefore, to seek either a corrective or succedanea for it.

B. *External treatment.*—The skin, at an early age, presents to anti-syphilitic remedies the two conditions, favorable yet contradictory in appearance, of a surface eminently absorbent and very little susceptible of being irritated by their contact. It is then, so to speak, predestined to serve as a channel for their introduction. The works of several writers on syphilis, and particularly those of Cullerier, tend more and more to reinstate it in this office, and give special importance to the rules fitted to ensure the most certain and efficacious employment of this treatment.

It is usually the mild or strong mercurial ointment which is selected for frictions. It is better, in my opinion, to increase the proportion of the fatty matter, notwithstanding the larger quantity of ointment necessary for each rubbing in. The treatment is neither retarded nor protracted thereby; and we may, by this means, avoid the cutaneous irritation which, although rare at an early age, would be very prejudicial, from forcing us to suspend the frictions.

To what part of the body must the ointment be applied? An old custom points out the lower extremities as the best place, and in them the inner surface. This choice is justified in the adult by the greater delicacy of the integument there, but in the child, in whom the skin is equally thin everywhere, we may dispense with following this rule. Cullerier justly observes that the legs and thighs being at this age almost constantly soiled and irritated by the urine and fæcal matter, the mercurial frictions add a fresh source of irritation, which cannot fail to be detrimental. He

prefers the application of mild mercurial ointment to the lateral surfaces of the chest. A larger surface is, moreover, there acted upon, and one in the vicinity of the axilla, a region whose absorbent faculty is so often taken advantage of in practical medicine.

Brodie, whose predilection for external treatment I have already alluded to, carries it out in the following manner: the knees of the new-born child are loosely enveloped in a flannel band, the inner surface of which has previously been smeared with mercurial ointment. It must be renewed daily. The movements of the child cause the band to slip up and down and effect the friction naturally.[1] Dr. Snow confirms the efficacy of this treatment by relating the case of a woman whose last child, the only one subjected to it, was the only one which survived. The four preceding children had either died at birth, or had sunk in a short time with symptoms of syphilis.[2]

Baths employed, before treatment, to render the skin more absorbent are little needed in children. But, in them as in the adult, the frequent use of baths, or washing with soap and water, is necessary during the treatment, to remove the layer of mercurial ointment left by the preceding frictions. Without this precaution the ointment might become rancid and produce erythema; at all events, its presence would be an obstacle to the complete penetration of the remedy when reapplied. The degree of force to be given to the friction, its duration,[3] the temperature[4] to be kept up during the application of it, present nothing peculiar at an early age, The quantity of the ointment and the interval to be left between the frictions will be spoken of further on, under the head of *doses*.

Mercurial baths are a good adjuvant to frictions. They might, no doubt, effect a cure alone; but it would then be necessary to give them too frequently, and they would become debilitating. And even if repeated very frequently, they would in many cases allow of the advance of the disease and of the derangements which it is so important to arrest in good time. Employed from time to time, on the contrary—every three or four days, for instance—during the endermic treatment, they concur, first, to ensure the curative

[1] 'Lectures illustrative of Various Subjects,' p. 245.

[2] 'Abstract of the Med. Sciences,' p. 282.

[3] From six to ten minutes, according to age.

[4] It is necessary, especially with young children, not to rub in except near the fire or in a well warmed room, if the weather be at all cold.

effect of the frictions; and, more directly, to accelerate the cure by the aid of the quantity of mercury which the whole surface of the skin absorbs during immersion. The bichloride of mercury is the preparation which is almost exclusively employed for these baths.

I shall not speak here of lotions, plasters, fumigations, etc. In spite of the influence which they exert on the general disease, these various means are usually regarded as forming part of the local treatment. I therefore reserve what I have to say about them to the chapter devoted to that subject.

VI.—*In what dose and according to what progression is the remedy to be given?*

This subject is one of the most important, the one of all others perhaps which most urgently calls for a radical reform. I wish to state very distinctly: All the rules in force on this point are dictated by prudence, not one by a correct understanding of the real therapeutical requirements. There is no author who does not point out the dose which should not be exceeded; very few take into account the one which must be attained. No doubt the delicacy of the child and the susceptibility of its digestive organs explain such apprehensions; but they must not deter me from alluding to the exaggeration of them. The general practice in this respect errs, as I think, on the side of timidity. We intrench ourselves behind the fear of gastro-intestinal irritations, behind the circumspection which experience renders, it is said, a duty, and forget the fearful and rapid severity of the disease. And what happens? From fear of doing harm the practitioner neglects the opportunity of doing good; and too often, from being afraid of injuring his patients, he lets him perish.

I need only choose at random to justify these remarks. The initial dose recommended in most works is so small that it becomes almost insignificant. Bertin fixed it at the twelfth or twenty-fourth part of a grain of the bichloride daily. Lamauve, somewhat bolder, recommends, however, that more than the sixth of a grain should never be given in a day. Bertherand begins with the twelfth of a grain only. Cullerier prescribes the sixteenth of a grain at first; it is true that he afterwards goes on to a quarter of a grain and employs mercurial baths at the same time. But the

most timid of all is Baumès who begins with the twentieth or even thirtieth of a grain, to arrive progressively at an eighth or a quarter, but only in the case of a child which has been weaned.

Some authors, however, have not been afraid of adopting a more decided practice. Bassereau, in his chapter on the syphilodermata of infants, says, "that the medium doses given to adults ought then to be reduced to a quarter or a third." I see also that Landmann cured a child at the breast, very seriously affected, by administering to it daily as much as three fifths of a grain of Hahnemann's soluble mercury, besides lotions of a solution of the bichloride.[1] I second to the utmost of my power this salutary reaction. In a therapeutical point of view, infantile syphilis appears to comprise two species: one which consists in external lesions only and does not sensibly affect the constitution: the other which produces a general falling off, rapidly fatal if the disease is left to itself. But, if it be permitted to temporise with the former, to select the least irritating remedies, to sacrifice something to the *jucundê*, this is no longer the case with the latter. When the vital powers have already been compromised during intra-uterine life; when the essential viscera are probably affected; when birth itself creates new dangers by depriving the child of the elements of nutrition which it received from its mother, and by multiplying the external causes which provoke diathetic manifestations,— then every day is fatal, every hesitation may become deadly. In my opinion, to stickle at the doses when death is at hand and we have the specific at our disposal, is an error the persistence of which in the present day will cause surprise hereafter. And, to sum up in few words, since we know how to cure and almost always do cure adults, I ask myself why, even when treated early, we so often let infants perish.

I do not forget, however, that the curative dose is not that which is swallowed, but that which is absorbed. Without doubt, taken in a quantity sufficient to irritate, antisyphilitic remedies cease, for that reason alone, to act upon the disease. But an important distinction must be borne in mind here. The chief phenomena produced by mercury are of two kinds: inflammation of the digestive canal, and salivation. But each of these has its peculiar signification. The first may occur long before the dose required

[1] 'Ann. Méd. de la Flandre occidentale,' 1852, p. 408.

for the cure has been reached. The second, on the contrary, does not supervene until this dose has been approached. The one is a danger without anything to compensate for it: the other brings with it its own instruction; for it shows that the mercurial action is attaining the limit at which it becomes sufficient, and beyond which it would be detrimental. Hence follows a double consequence: avoid the gastro-intestinal irritation; avoid it always, as much as possible, even from afar off; but wait, on the contrary, until a certain degree of inflammation of the gums and mercurial fœtor manifest themselves. When there is danger of death, as in congenital syphilis, this valuable criterion can alone point out how far the administration of the remedy must be carried. So far we must go then; for, short of this, we should be in danger of letting the derangements gain ground. Moreover, this inconvenience, unimportant when its appearance is carefully watched, is always easily and certainly obviated by the suspension of the mercurials.

Salivation, such a valuable guide generally, is still more so when the treatment consists in baths and frictions only. We may, indeed, determinate approximately the dose of a remedy taken internally; for we know that it will be absorbed almost entirely, and we are able from this datum to increase the quantity progressively and to continue the use of it during the time fixed by common experience. But absorption through the skin is so variable and, in consequence of a great number of conditions, so capricious, that it would be impossible to calculate its effect, to know when it is necessary to modify the proportion of the remedy, to suspend or to abandon it, if we had not, in stomatitis, an indication incapable of deceiving us on these important points. This will be then, especially here, the guide which we must follow in preference to the vague data furnished by authors. When we have once recognised in the breath of the child the slight fœtor characteristic of the mercurial action, we may be satisfied and diminish the doses. The impression of the remedy upon the organism is then produced, and produced to a sufficient extent. The practitioner has then effected, in that respect at least, all that was in his power; and if the health of the child is not re-established, it is in other sources of danger that he must seek an explanation and a remedy. Nevertheless, it is necessary to keep up, to a slight extent, this irritation of the gums which announces the mercurial action necessary for the cure; for

perseverance in an efficient dose is indispensable to effect a perfect cure. I shall, moreover, soon have occasion to return to this point. All that I wished to establish here is that, in presence of lesions which threaten to become fatal, the practitioner is fully authorised, I should even say that he is obligated, to increase the doses rapidly until he has produced a moderate degree of the characteristic salivation.

The manifest and gradual decrease of the visible symptoms would be a good indication that the effect of the remedies suffices. If we see it produced, it is useless to ask for other guides in determining the doses. But, in general, we should lose much time if we waited for it; and here time is very precious. It must, moreover, be borne in mind that the fading of the colour of syphilodermata, and the declension of the mucous patches, may supervene spontaneously or from mere attention to cleanliness. We must take care, then, not to allow ourselves to be imposed upon by this fallacious abatement; and, so long as the constitution retains the special stamp of syphilis which indicates serious internal changes,—so long as strength, sleep, and plumpness are absent, must persist in the treatment and increase the doses rapidly. To be more precise, I will say that we may commence by administering one tenth of a grain of bichloride or three twentieths of a grain of Hahnemann's soluble mercury, in three doses, in the course of the twenty-four hours. This quantity may be augmented one twentieth of a grain every three days until it produces a sensible effect either upon the mouth, or upon the syphilitic symptoms. The daily quantity may then be diminished, as is done for the adult, so as to keep up a slight action on the gums, or rather so as to reproduce it, several times in succession, during the whole course of the treatment.

A convenient way of dividing these remedies exactly is to dissolve a given weight in a certain number of spoonfuls of distilled water. By then taking a spoonful of this mixture we know exactly the quantity we administer. The frictions will be made with from fifteen to thirty grains of mild mercurial ointment at first, and repeated once a day. More may afterwards be used, if necessary, for each rubbing in. If the skin be very sensitive, they must be repeated every second day only. The baths contain half a drachm of bichloride. This quantity is afterwards increased, by fifteen grains at a time, to a drachm or a drachm and a half, according to the

age of the subject. These baths are to be repeated every two, three, or four days.[1]

It appears superfluous to give the exact formula for the lotions, pomades, injections, &c., destined for the treatment of syphilitic infants. Besides the circumstance that these formulæ must be varied according to the cases and the individuals, and in the same individual according to the phases of the affection, it is so easy to copy them, with the desired modifications, from those used for adults, that there would be no advantage in entering into more extensive details on the subject.

The iodide of potassium may be administered by commencing with three quarters of a grain and increasing the dose rapidly, notwithstanding the stoppage in the nose (capable of simulating syphilitic coryza) which might result from it. I will not state the dose at which it might be necessary to stop: the special tolerance of the organism for this agent does not render it so necessary to fix a limit for it as for mercury. It would be the more inopportune to attempt to determine the dose *à priori*, since the curative action of the remedy is sometimes not manifested except from a very considerable dose. It is, moreover, to be understood that the rules I have just laid down will differ according to the age of the subjects, as well as according to their strength, the degree of their development, and a number of other conditions which it is the office of the practitioner to estimate at their exact value.

Struck with the possibility of raising with impunity the doses of iodide of potassium, and those of the preparations of mercury externally, I consider it my duty to call the very particular attention of practitioners to the propriety of composing the treatment of infants of mercurial baths and frictions, and of the iodine given internally at the same time. Ought not the association of mercury and iodine, so fruitful in good results in the adult, to be tried more frequently in the child than is done at present? Whether as a general method or reserved for the cases in which one of the two agents has proved inefficient, I do not hesitate to recommend this treatment by combination, which, thus practised, has none of the disadvantages pointed out by my honorable and very learned successor, Rodet.

[1] These baths, if too concentrated or repeated too often, sometimes produce an erythema, the bright colour and almost instantaneous appearance of which over the greater part of the body may seriously alarm the parents.

VII.—*What is the duration of a course of anti-syphilitic treatment in infants?*

It is evident that no absolute rule can be laid down on this point. The duration of the treatment depends, first of all, upon the severity of the disease. The more the latter compromises the patient's life, the more important it is, by the prolonged use of remedies, radically to destroy its germs, and to prevent relapses. As a general rule, then, the syphilis which attacks the viscera and weakens the constitution will necessitate a longer course of treatment than that of which the effects consist only in the eruption of erythemo-papular syphilodermata, without any deeper lesion of the vital powers. Secondly, if the remedies cannot be given to the child except through the medium of the nurse, while their efficacy, by this channel, is less, we can understand that it will be prudent to make up, by the aid of a larger administration, for the insufficiency connected with the special mode of their introduction into the economy. Sometimes also very active treatment is indispensable to subdue threatening symptoms: but, when once the danger has been overcome, we must relax the rigour of our prescriptions which might, themselves, produce bad results. In seeking to determine the time to be devoted to the cure, we must also take into account the variations which the doses have undergone, whether it be that they have been lessened from prudential motives, or that a little irritation of the digestive passages or commencing salivation has forced us to diminish them, or even to suspend for a time the administration of the remedies.

The employment of specific remedies must be continued some time after every manifestation of syphilis has disappeared. All pathologists agree on this point, but we must eschew the excess of caution which leads to an almost indefinite perseverance in the administration of them. By continuing them without reserve, we accustom the organism to their action; and we thus deprive therapeutics of resources which it is impossible to affirm might not be required ultimately, nothing being more common than relapses, which decrease in severity progressively it is true, of the most methodically treated syphilitic diathesis. The practitioner will therefore take care to observe a circumspect mean in this respect

between too much and too little, but chiefly by avoiding the latter. It is also necessary to take into consideration the more or less prompt manner in which the visible symptoms have been modified by the remedies. This affords us an exact indication of the particular degree of curative action which they exert relatively to a given individual; for, like all forms of syphilis, all persons affected with syphilis are not equal in this respect. Changes of the nurse, the existence of worms, thrush, convulsions, diarrhœa, the disorders of detention, &c.—are causes of evolution peculiar to infants; they may occasion relapses, and consequently point out the resumption or prolongation of the anti-syphilitic treatment. But each special case suggests to the practitioner his rule of conduct in this respect. I can here only advise him to redouble his vigilance at these various periods; nor then to suspend the treatment prematurely before he sees whether the disease will not acquire new force at that moment, or whether, if it had previously become extinct, it will not manifest itself afresh.

Apart from all peculiar circumstances, it appears to me that a *three months'* course of treatment is sufficient in infants, on condition that it be with mercury, and on condition that it be administered directly to the patient himself. It is to be understood, moreover, that this *a priori* determination is and ought to be approximative only. To observe the modifications of the symptoms which the remedy occasions; to study the tolerance of the organism, and its susceptibility to the effects of mercury; to distinguish, amongst its effects, those which prove that it is acting sufficiently from those which furnish grounds for fearing that it is acting too much, will always be the best means of ascertaining the limit most capable of restoring health to children, and of reassuring families.

When the indirect mode of treatment is the only one possible, it is necessary from the real inferiority of its curative powers, to continue it for a much longer time. The simultaneous use of iodide of potassium (until, at least the suitability of this agent in congenital syphilis has been better established) could not authorise us to abridge the administration of mercury. A valuable auxiliary in certain cases, it would become more dangerous than usual if we assumed it to possess this property. As for the period of time during which it must be prescribed, this will vary according to the indications and according to the effects obtained.

VIII.—*With what sanitary precautions must the child be surrounded to promote the curative effects of the treatment?*

No age appears at the first glance more propitious than this for assembling around the patient all the conditions which ensure the effect of specifics. The command of the practitioner over his patient is complete. He has not, from that quarter at least, to fear the omissions, to combat the resistance, to meet the departures from regimen which, in the adult, often paralyse the best combined treatment.

Unfortunately, other influences sometimes neutralize the good result of these. Amongst them must be placed first what concerns nutrition, so difficult to attain generally in syphilitic children. It is here that the incessant vigilance of the practitioner is needed. First of all, it is necessary to procure them a nurse, and, as far as possible, a healthy and robust one. I have already explained that, the advantage of a mercurialized milk not equalling that of a milk normally substantial, it is better to renounce the benefit of the indirect treatment than to purchase it by employing a nurse who takes mercury only because she has syphilis, and, consequently, a mammary secretion of inferior quality.

Natural lactation, difficult in private families, is frequently impossible in hospitals. An active cause of death, artificial lactation, however careful, however perfect it is supposed to be, ought not to be allowed unless there is an insurmountable obstacle to doing better. It will be remembered, then, that a syphilitic nurse, but one who consents to undergo treatment, would, in such a case, be far preferable to the feeding-bottle. A goat or an ass would also replace it with advantage; and I cannot too strongly direct the attention of hospital authorities to the urgent necessity of organizing in their special departments means of lactation of this kind.

One very significant circumstance demonstrates the pernicious influence exercised by artificial lactation independently of all other morbid causes. Valleix[1] tells us that in the hospital for sick children at Paris a prejudice widely spread amongst the officials of the establishment leads them to consider every child, the subject

[1] 'Cliniq. des Mal. des Enf. nouv.-nés,' 1836, p. 665.

of a cutaneous affection, however simple, as syphilitic. In consequence of this opinion they are often deprived of nurses, and considerable mortality, which does not fail to be placed to the account of syphilis, occurs in these cases.

The temperature to be maintained around children affected with syphilis is one of the most important points of their special hygiène. Positive observations prove: 1. That the poison of chancre loses its inoculable property by heat, while it retains the same if kept cold. 2. That constitutional syphilitic affections, previously refractory to treatment, are easily cured by the aid of a change of residence, or a sojourn in a more southern country. 3. That the appearance or return of secondary or tertiary lesions very frequently supervenes as a consequence of a decrease of temperature, and occurs by preference at the changes of the seasons, periods at which the causes of *taking cold* are more active. If, on the other hand, we take into consideration the necessity for warmth, a condition organically inherent in infants; if we reflect that exposure to cold is one of the morbid causes which carry off the greatest number of infants, and the starting point of their most serious diseases (erysipelas, pneumonia, scleroma), we shall admit the very especial utility of developing a sufficient degree of warmth, and above all a continuous warmth in the locality devoted to syphilitic nurslings. The writers of the sixteenth and seventeenth centurities had fully recognised the beneficial effect of a high temperature for the cure of syphilis. If they carried it to excess in their stoves in which they sought to *sweat out the poison* by perspiration as well as by the saliva, we perhaps now infringe this rule too lightly by granting the requests of our patients for a mode of treatment which shall be, above all, *easy to follow secretly, and while travelling!* In all these cases, if the rigour of the old hygienic rules deserves to be resumed from time to time, this could not be done more appropriately than in the case of new-born children, in whom so many reverses show the comparative inefficiency of the therapeutic agents which usually succeed so well for adults.

The excretions ought to be the object of a no less careful attention. The orifices through which they pass being those around which the syphilitic symptoms are most frequently grouped, the importance of extreme cleanliness is evident. It is the more necessary because the contact of the urine and the fæces further compromises the success of the treatment by frictions, by rendering

the skin more liable to the specific erythema which they produce. Frequent changes of linen, repeated emollient or slightly astringent ablutions, general baths used oftener than if syphilis did not exist, are therefore measures which must never be neglected.

The debility produced by syphilis, the chloro-anæmia which is a common complication of it, the disintegration of the blood-globules, the effect of mercurial preparations, all sufficiently indicate that the regimen of syphilitic children must be rather substantial than light. This must also be borne in mind in the intercurrent diseases of syphilitic infants. Blood must then be abstracted more sparingly, and low diet less prolonged, while tonics are more strongly indicated. Sometimes the state of the blood will even necessitate the direct employment of ferruginous or ferro-manganic preparations with or without mercurials.

IX.—*When and how must the influence of the general treatment be promoted by that of a local treatment directed to a given symptom?*

As a general rule, it is advantageous to let the syphilitic symptoms run their own course. After having subjected the individual who is the subject of them to the action of specifics, we may and ought to abstain from all local treatment. We may; for if the constitutional treatment be sufficient, the manifestations will disappear under its influence alone. We ought; for the degree of resistance of these same manifestations is the best means which the practitioner has of judging of the propriety of diminishing, increasing, suspending, or renewing anti-syphilitic remedies. If, then, we furthered the cure of them directly by topical remedies, their amendment, being then induced by the partial or exclusive effect of the latter, would no longer serve to determine the indications for general treatment; and, being deprived of one of its safest guides, the latter might either be prolonged more than is suitable, or else be regarded, on account of the rapid disappearance of the visible lesions, as sufficient when it was still very incomplete.

Certain exigencies, however, dictate the obligation to infringe this rule. The characteristic deformity which syphilis inflicts upon its victims frequently renders them anxious to be disembarrassed as soon as possible from these compromising stigmas. But if we are sometimes compelled to yield to this wish in adults, nothing can engage us to do so in the infant; and if there were only this

reason to induce the practitioner to accelerate by topical applicasions the disappearance of the visible lesions, he ought, unless permanent deformity is to be feared, to resist the entreaties which the parents or the nurse sometimes address to him on this point.

But other more legitimate indications not unfrequently present themselves at this age. From their nature or their extent, syphilitic lesions become, under certain circumstances and independently of the lethal action of the diathesis, direct and serious sources of danger. I class under six distinct heads, which may, however, coexist in the same subject, the cases in which such an effect is to be feared.

1. The lesions impede the performance of functions indispensable to life. Thus, those of the lips, of the cavity of the mouth, or of the nostrils, render prehension, suction, deglutition, and respiration difficult or impossible.

2. Others occasion pains, the intensity or continuance of which may prove fatal. Fissures at the margin of the anus, thick and adherent crusts on the face, cracks in the inter-digital spaces, and on the extremities, generally in the neighbourhood of the joints, possess this character in the highest degree.

3. Some would exhaust the patient by the abundance of the serous or purulent secretions which they occasion. Ecthyma, pemphigus, immense mucous patches, and extensive impetigo would have this bad effect.

4. A chancre or mucous patches in the mouth expose the nurse to contracting the infection; and this danger, too well understood by her, compromises the life of the suckling by depriving it entirely or partially of its natural food. It is important, then, to expedite the cure of the transmissible symptom; and local treatment furnishes the best means of accelerating this termination.

5. Lastly, situated on parts where attention to cleanliness is very difficult to renew, some of these lesions produce, by the absorption of the gases or the fluids which their decomposition engenders, a true miasmatic poisoning of the young subject. Such are the very fetid suppuration of syphilitic coryza, the secreting lesions around the anus and on the genitals, and mucous patches of the mouth.

It becomes necessary, therefore, to employ local treatment against the danger resulting from each of these causes, *a fortiori* if several of them combined augment it. The practitioner must decide upon its opportuneness, the results must determine the

duration of it. I can only recommend that it should not be prolonged beyond the time required to deprive the lesion of the element of danger produced by itself, independently of that resulting from the diathesis. By the aid of this purulent reservation, the disadvantages of local treatment will be avoided. By depriving each lesion of its individual noxiousness, if we may thus express ourselves, we shall still leave it the means of serving as a useful criterion for the determination of the limits to be put to the general treatment. These preliminary observations having been made, I proceed to point out the local means most suitable for each of the lesons which may call for the employment of this regional treatment.[1]

Nasal fossæ.—Emollient fumigations and lotions should be excluded from the treatment of syphilitic coryza, except in the case of very intense inflammation. Topical applications at once disinfecting and specific may be employed together. A solution of bichloride of mercury may be injected five or six times a day. Calomel or chloride of lime, in powder, should also be blown up the nostrils frequently and alternately. At the same time the formation of the crusts which obstruct them may be prevented by moist aromatic fumigations, and especially by introducing from time to time with a feather a little ointment containing calomel, or proto-iodide of mercury.[2] By the aid of these measures, well combined, we very often obviate fatal effects.

Face.—We must here remedy by local applications: 1. Changes which threaten to leave visible cicatrices or more serious deformities. 2. Those which, covering the face with an immoveable mask, impede or render painful the functions performed there. In both cases it is necessary, first of all, to remove the crusts which prevent us from acting directly upon the diseased tissue. But, for this region as for others, the following is the method which I have from experience recognised as most capable of promptly fulfilling this indication, sometimes very important, although only of an accessory character.

Cover the crusts with a thick layer of lard; then place a very warm emollient poultice over them. Keep it there all night. The

[1] The treatment of chancre and bubo differs in nothing, in new-born children, from that employed for adults.

[2] To 30 parts of the fatty matter employed, add from 1—2 parts of calomel, or from ½—1½ parts of proto-iodide of mercury.

next morning the lard, gradually melted by the warmth of the poultice, would be found to have penetrated the crust and rendered it soft and less adherent. On removing the poultice, the crust becomes partially detached, and the removal of it may be completed by scraping the surface very gently with a spatula or the handle of a spoon. If one application has not sufficed, two or three similar ones made successively will enable us to remove the most voluminous and most adherent crusts.

When once the diseased tissue has been laid bare, we may act upon it either by repeated cauterizations, if we have to deal with an ulcer, or, if the integument has not been broken, by dressings with an ointment in which the proportion of proto-iodide of mercury varies from four fifths of a grain to one grain to fifteen grains of the fatty matter.

Mouth.—The danger of contagion and the obstacle they present to the most important functions call for as rapid a repression as possible of lesions of this cavity. We attain this with certainty by the aid of cauterizations with a pencil of lint smeared with—

Honey . . .	15 parts.
Sulphuric acid . .	1 to 2 parts.

If a more powerful and more circumscribed action be required, a stick of nitrate of silver furnishes the means of obtaining it. These applications must be repeated every other day. They are the more necessary, as gargles, so useful a substitute for them in adults, cannot be employed in the treatment of children.

Trunk.—An innocent and significant test of the effect produced by the general treatment, the exanthematous or papular eruptions of this region require only to be left to themselves. They formally contra-indicate all local treatment. If, however, pustules of ecthyma or some exceptionally painful lesion should occupy a part of it, we should find in the continued application of a plaster of *vigo cum mercurio* the means both of protecting them from irritating and painful friction and of accelerating their disappearance.

Anus and genital organs.—Almost all the local remedies which may be required for this region are comprised in the treatment of mucous tubercles, so common a lesion that it is almost the

only one. But, to combat it promptly, nothing equals Ricord's formula, which consists in washing the patches twice a day with a solution of fluid chloride of soda. Each washing is followed by the application, with pressure, of a small quantity of calomel. Care must be taken to increase more and more the degree of concentration of the solution of chloride. I once more suggest the importance of great attention to cleanliness in this region.

Limbs.—Wash the bullæ of pemphigus, or the ulcers which are their consequence, with a pretty strong solution of bichloride of mercury.[1] In the case of onychia, with falling off of the nail, dress the bare surface with a pledget of lint smeared with proto-iodide ointment; place others in the fissured spaces which separate the fingers or the toes; employ mercurial frictions with belladonna[2] on the bony enlargements which may present themselves: these, it appears to me, are the only indications which this region furnishes for local treatment.

Viscera.—I have already pointed out the utility, in these serious cases, of applying the action of the remedy as directly as possible to the organ affected. In induration of the liver, mercurial or iodine frictions in the right hypochondriac or epigastric region should be employed by preference. In the same way, would it not be advisable, in suppuration of the lung, sometimes to try fumigations with cinnabar, or to set free iodine vapour in the apartment inhabited by the little patient? Hesitation is, in my opinion, unjustifiable; and, however obscure the diagnosis of this affection may be, its prognosis is so unfavorable that, so soon as we suspect its existence, treatment ought at once to develop all its resources.

[1] Bichloride of mercury, 1½ parts to 6 or 7½ parts; distilled water, 100 parts.

[2] Mild mercurial ointment, 25 parts; extract of belladonna, 4 parts.

APPENDIX.

Plenck's Gummy Mercury.

Mercury . . .	1 gramme (gr. xv)
Powdered gum arabic . .	3 grammes (gr. xlv)
Syrup of diacode (an old preparation, an electuary containing a very small quantity of extract of poppies) .	4 grammes (ʒj)

Triturate in a porcelain mortar until the mercury disappears. *Dose*—2 grammes (ʒss) in an appropriate vehicle, or in the form of bolus or pill.

Van Swieten's Solution.

Hydr. Bichlor. . . .	1 gramme (gr. xv)
Sp. Vini rect. . . .	100 grammes (ʒiij ʒj)
Aq. distill. . . .	900 grammes (ʒxxviij ʒj)

Neapolitan Ointment.

Ung. Hydr. Mit.

Bellet's Improved Syrup.

Syrup. Simpl. . .	500 grammes (ʒxv ʒv)
Sp. Æther. Nitr. . .	2 grammes (ʒss)

With the addition of mercury, if necessary.

Hahnemann's Soluble Mercury.

This preparation, which is insoluble, is an ammoniaco-nitrate of mercury. *Dose* 1 to 5 decigram. (gr. $1\frac{1}{2}$ to $7\frac{1}{2}$) in pills.

Laffecteur's Syrup.

Formula not published—chief ingredient Sarsaparilla with a little Senna.

Labarraque's Liquid.

Liq. Sodæ Chlorinat.

Vigo c. Mercurio.

A complex plaster, containing a considerable quantity of mercury.

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